# BDS 280/580

3D Blu-ray™ Disc System

Owner's Manual

harman/kardon®
by HARMAN

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## Introduction

Thank you for purchasing the Harman Kardon BDS 3D Blu-ray Disc™ system.

The Harman Kardon BDS systems are sleek, high-performance 2.1 (BDS 280) and 5.1 (BDS 580) channel 3D Blu-ray Disc™ system with high fidelity amplified sound.

In the years since Harman Kardon engineers invented the high-fidelity system, we have taken to heart the philosophy of bringing the joy of home entertainment to as many people as possible, adding performance and ease-of-use features that enhance the experience. The BDS series of home entertainment systems offer a complete home entertainment solution with a wealth of listening and viewing options in one sleek system.

To get the maximum enjoyment from your new BDS system, we urge you to read this manual thoroughly, which:

- Contains a description of the system's features
- Lists the items included in the box
- Describes the BDS system and its components
- Includes step-by-step instructions that will help you set up and get started with the BDS system

**CONTACT US**: If you have any questions about this product, its installation or its operation, please contact your retailer or custom installer, or visit our website at:

www.harmankardon.com

## Description and Features

The BDS system features:

- 65W per channel of powerful, clear audio
- Three HDMI inputs (one with MHL/Roku-ready) with 3D, UHD (4K) pass-through
- One HDMI output with Audio Return Channel (ARC), 2D to 3D conversion, and UHD upscaling
- Wi-Fi connectivity for Apple AirPlay®, DLNA 1.5, system updates and control, and streaming Internet services
- High quality Bluetooth audio streaming
- NFC for quick Bluetooth® pairing
- Dolby® Volume to maintain consistent sound levels without distracting changes

Connect the BDS system to online sources such as Picasa, AccuWeather, and Pandora®. The Harman Kardon BDS system is the world's first Blu-ray system with Dolby Volume. Enjoy the detail and clarity of your favorite movies and music in high fidelity sound with Dolby TrueHD® and DTS-HD® (BDS 580) and DTS Digital Surround (BDS 280).

## Unpacking

The carton and shipping materials used to protect your new system during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move or if the unit ever needs repair.

To minimize the size of the carton in storage, you may wish to flatten it. You can do it by carefully slitting the tape seams on the carton's bottom and collapsing it. You can store cardboard inserts in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging material, note that the carton and other sections of the shipping-protection materials are recyclable. Please respect the environment and discard those materials at a local recycling center.

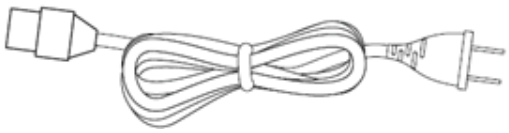
Remove the protective plastic film from the front-panel lens. Leaving the film in place will affect the performance of your remote control.

## Included Items

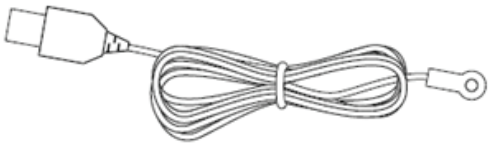
The following are the items provided in the BDS system complete package.

- One Remote Control

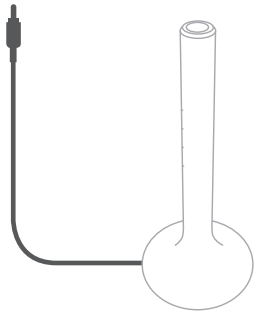
- One Power Cord



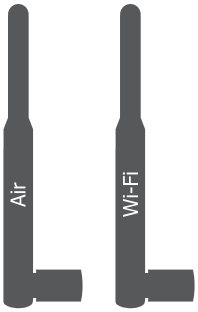
- One FM Antenna



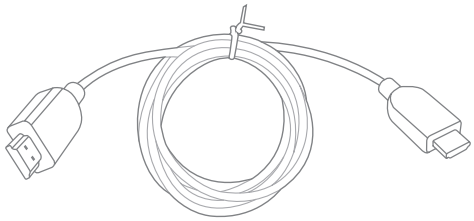
- One EzSet/EQ™ Microphone



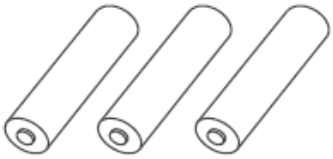
- Two Wi-Fi Antennas




- One HDMI Cable



- Three AAA Batteries



**NOTE: If any of these items is missing please contact Harman Kardon customer service at www.harmankardon.com**

## Installation Location

- To ensure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Provide adequate space behind the system for ventilation. If the product will be installed in a cabinet or other enclosed area, make sure there is sufficient air movement within the area.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations or in an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the fan vents on the rear panel or ventilation slots on the sides of the unit or place objects directly over or next to them.
- Do not place the system directly on top of a product that generates excessive heat.
- Due to the heat generated by the system, there is a remote possibility that the padding on the bottom of the system may leave marks on certain wood or wood-veneer materials. Use caution when placing the system on soft woods or other materials that heat or heavy objects may damage. Some surface finishes may be particularly sensitive to absorbing such marks, due to a variety of factors beyond Harman Kardon's control, including the nature of the finish, cleaning materials used, normal heat and vibration caused by the use of the product, or other factors. Your warranty will not cover this type of damage to furniture, so exercise caution in choosing an installation location for the component and in performing normal maintenance practices.
- The BDS system requires either a Wi-Fi home network signal or access to a physical Ethernet connection to access certain features such as Apple AirPlay®, DLNA®, control from the Harman Kardon Remote app, and streaming Internet services.

**Verify Line Voltage before Using**

Your BDS system has been designed to be used with 100 – 240-volt, 50Hz/60Hz AC current and includes a detachable IEC power cable intended for use in the region where the system is sold. Connection to a line voltage other than that for which the unit is intended can create a safety and fire hazard and may damage the unit. If you have any questions about the voltage requirements for your specific model or about the line voltage in your area, contact your dealer before plugging the unit into a wall outlet.

### Moving the System

Before moving the system, first disconnect it from AC power and then remove any interconnection cables to other components.

### Cleaning

When the system gets dirty, wipe it with a clean, soft, dry cloth. If necessary, and only after unplugging the AC power cord, wipe it with a soft cloth dampened with mild soapy water, then a fresh cloth with clean water. Wipe it dry immediately with a dry cloth.

**IMPORTANT: NEVER use benzene, aerosol cleaners, thinner, alcohol or any other volatile cleaning agent.**

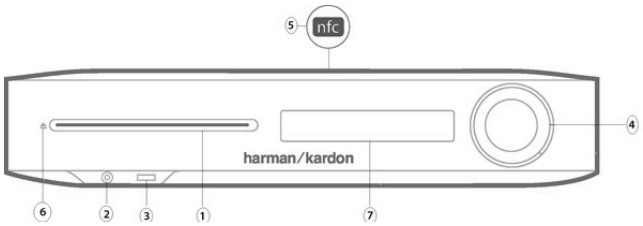
**NOTE: Do not use abrasive cleaners as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.**

Your BDS receiver is designed to be compatible with region management information that is encoded on most Blu-ray Disc recordings and DVD recordings. Your receiver will only play discs that contain region coding for the area where your receiver was shipped and intended for sale:

| Area Where Sold | Blu-ray Disc Region Code | DVD Region Code |
|---|---|---|
| USA, Canada | A | 1 |
| Europe, Middle East | B | 2 |
| Korea, S.E. Asia | A | 3 |
| Mexico, Latin America | A | 4 |
| Australia, New Zeland | B | 4 |
| Russia, India | C | 5 |
| China | C | 6 |

For example, BDS receivers shipped to and sold in the USA will only play Blu-ray Discs that contain region code A and DVD discs that contain region code 1.

## BDS Front Panel Controls and Connections




1. Disc slot
2. Headphone output and EzSet/EQ microphone input
3. USB/iPad/iPod/iPhone input
4. Volume ring and power button
5. NFC for Bluetooth pairing
6. Eject
7. Information display

**1. Disc slot**: Insert a compatible disc into the slot. The BDS system's disc slot accepts 5-inch (12 cm) and 3-inch (8 cm) discs.

**2. Headphone output and EzSet/EQ microphone input**: Insert the 1/8-inch (3.5 mm) stereo mini connector from a set of headphones into this jack. When performing EzSet/EQ speaker calibration, insert the microphone here.

**NOTE: When a plug is inserted into the headphone jack, the BDS system's speaker output becomes automatically mute; the HDMI audio output remains active.**

**3. USB/iPad/iPod/iPhone input**: You can use the USB port to play audio files from an Apple iOS device connected to the port, and to play audio files and show video and picture files from a USB device inserted into the port. Insert the connector or device into the USB port oriented so it fits all the way into the port. You may insert or remove the connector or device at any time - there is no installation or ejection procedure. You can also use the USB port to perform firmware upgrades. If an upgrade for the BDS operating system is released in the future, you will be able to download it to the BDS system using this port. Complete instructions will be provided at that time.

**IMPORTANT: Do not connect a PC or other USB host/controller to this port as it may damage both the BDS system and the other device.**

**NOTE: This USB port is rated for 2.1A output, which suggests, it is certified to charge iPad devices (as well as iPhone and iPod devices). There is a USB connector on the rear panel as well with similar functionality, rated for 1A to change iPhone and iPod devices.**

**4. Volume ring and power button**: Volume can be adjusted by touching this capacitive ring. Slide clockwise around the ring to increase volume, counter-clockwise to decrease volume.

**IMPORTANT: If at high volume levels the audio from the speakers begins to distort, reduce the volume as prolonged distortion can damage the system.**

Press this capacitive button to turn the BDS system ON. If the system is already ON, press this button to push the system to Standby, Sleep or OFF mode.

The following table describes the different modes along with the LED display.

| Mode | Operation | LED display |
|---|---|---|
| ON | Press the power button | White |
| Standby | Long press on the power button | Amber |
| OFF | Press the power button when in operational mode | OFF |
| Sleep | • No activity for 15 min<br>• Short press on the power button on the front panel.<br>• Short press on the remote control power button or power off command from external IR or remote app | Amber |

**NOTE: While the system is powering on the volume ring will spin till the boot process is complete.**

**5. NFC for Bluetooth pairing**: Near Field Communication (NFC) is used for fast Bluetooth pairing of compatible Android™ and Windows® mobile devices. Place the mobile device near the NFC logo on the top front of the system to pair or unpair.

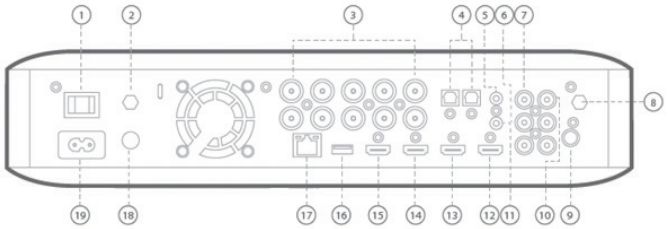
**NOTE: The system can be brought to Operational mode by tapping on the NFC area.**

**6. Eject button (appears only when a disc has been inserted)**: Touch this button to eject a disc from the BDS system's built-in disc slot. Before touching this button, make sure no objects block the disc-slot.

**NOTE: If you do not remove the ejected disc within 90 seconds, it will automatically re-load into the disc slot for protection.**

**7. Information display**: Various messages appear on this display in response to commands and to show the audio/video that is playing, the BDS system's settings or other aspects of the BDS system's status as described throughout this manual.

## BDS Rear Panel Controls and Connections




1. Main Power Switch
2. Antenna Air
3. Speaker outputs
4. Optical Digital Audio (S/PDIF) inputs
5. Trigger Output
6. AUX 1 input and AUX 2 input
7. Subwoofer output
8. Antenna Wi-Fi
9. FM radio antenna output
10. Coaxial digital audio (S/PDIF) input
11. IR Remote input
12. HDMI output (ARC)
13. HDMI 1/MHL input
14. HDMI 2 input
15. HDMI 3 (Apple) input
16. USB input
17. Network Connector
18. WPS button
19. AC Power input

**1. Main Power switch**: This mechanical switch turns the BDS system's power supply ON or OFF. After you have made and verified all connections, set this switch to the ON position. During normal use, you will usually leave this switch set to ON; it cannot be turned ON or OFF using the remote control. To conserve energy when you are not using the system for an extended period of time, set this switch to OFF.

**2. Antenna Air:** Connect the antenna accessory labeled **Air** here for improved Wi-Fi reception.

**3. Speaker Outputs**: Use the speaker wires supplied with the speakers to connect the speakers to the proper terminals.

- The BDS system has connections for left and right speakers.

**4. Optical Digital (S/PDIF) Inputs**: Connect the optical digital output of an audio source component here. The signal may be a Dolby Digital, DTS® or standard PCM digital audio.

**5. Trigger Output:** This connector provides 12V DC whenever the system is ON. It can be used to turn on and off other devices such as a powered subwoofer.

**6. AUX 1 and AUX 2 Input**: Use these connectors to connect to an audio source device (such as a tape deck). Do not connect a turntable to these connectors without a phono preamp.

**7. Subwoofer Output**: Use the supplied mono RCA audio cable to connect this jack to the subwoofer's Line-Level IN LFE jack.

**8. Antenna Wi-Fi**: Connect the antenna accessory labeled **Wi-Fi** here for improved Wi-Fi reception.

**9. FM Radio Antenna Output**: Connect the supplied FM antenna to this terminal.

**10. Coaxial Digital Audio (S/PDIF) Input**: Connect the coaxial digital output of an audio source component here. The signal may be a Dolby Digital bit stream, a DTS bit stream or a standard PCM digital-audio bit stream.

**11**. **IR Remote Input**: When the IR sensor on the front panel is blocked (for example, when the system is installed inside a cabinet); connect an optional IR receiver to the Remote IR Input connector.

**12. HDMI Output (ARC)**: Connect the BDS system's HDMI output to your TV's HDMI input. If your TV is 3D capable, then you can watch 3D content in 3D either from the BDS system's built-in disc player or from other 3D-capable source devices connected to the BDS system's HDMI Input connectors (see below). The system's HDMI output connection also contains an Audio Return Channel (ARC) that carries a digital audio signal from your TV or video display back to the BDS. It allows you to listen to HDMI devices that are connected directly to your TV (such as a digital TV tuner) without making an additional connection from the device to the BDS system.

**NOTE: You must enable the ARC output of your TV. Consult your TV's instruction manual for information.**

**13. HDMI Inputs**: You can connect up to three additional source devices to the BDS system provided the source devices have HDMI connectors. The HDMI connection transmits digital audio and video signals between devices, so you do not have to make any additional audio connections for devices you want to connect via an HDMI connector. The BDS system will pass 3D video signals from 3D capable HDMI source devices to the TV via the HDMI output connector.

Some HDMI inputs have special functionalities:

- HDMI 1/MHL input: This input accepts both HDMI and MHL connections. MHL can be used with many mobile smart devices to mirror their audio and video content on the BDS system while powering the device (check the owner's manual of your device). This connector is also compatible with the Roku Streaming Stick, which allows access to Roku services, controlled by the BDS remote control.
- HDMI 3 (Apple) input: This input accepts any HDMI source device, but if connected to Apple products, such as the Apple TV or Mac Mini, the BDS remote can be used to control them (this input on the remote control is pre-programmed with standard Apple device remote commands).

**14. USB Input**: You can use the USB port to play audio files from an Apple iOS device connected to the port, and to play MP3 and WMA audio files and show video and picture files from a USB device inserted into the port. Insert the connector or device into the USB port oriented so it fits all the way into the port. You may insert or remove the connector or device at any time - there is no installation or ejection procedure. You can also use the USB port to perform firmware upgrades. If an upgrade for the BDS operating system is released in the future, you will be able to download it to the BDS system using this port. Complete instructions will be provided at that time.

**IMPORTANT: Do not connect a PC or other USB host/controller to this port, or you may damage both the BDS system and the other device.**

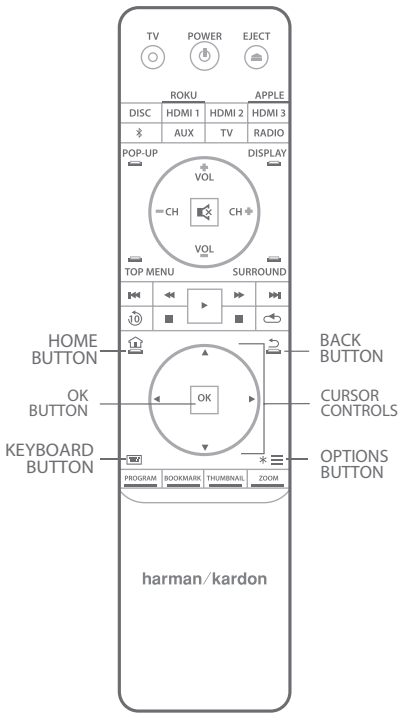
**NOTE: This USB port is rated for 1A output and it suggests that it is certified to charge iPhone and iPod devices. There is a USB connector on the front panel as well with similar functionality, rated for 2.1A to additionally charge iPad devices.**

**15. Network Connector:** Use a Cat. 5 or Cat. 5E cable (not supplied) to connect the BDS system's Network connector to your home network to enjoy content from AirPlay, DLNA, and streaming services, as well as control from the Harman Kardon Remote app for iOS and Android. Additionally, system upgrades can be downloaded and installed from compatible devices that are joined to the network.

**16. WPS Button**: You can connect to the Internet using the WPS button.

**17. AC Power Input**: After you have made and verified all other connections, plug the supplied AC power cord into this input and into an unswitched AC outlet.

## Remote Control Functions




**Power button**: The BDS system has four different power modes:

- OFF (ON/Standby indicator not illuminated): When the rear-panel Main Power switch is in the OFF position or the power cord is unplugged the BDS system is off and will not respond to any commands. Plugging the power cord into a live AC outlet and setting the Main Power switch in the On position will put the system into the Standby mode.
- Standby (Power indicator glows solid amber): The Standby mode minimizes energy consumption when you are not using the BDS system. When the system is in Standby, it will not automatically turn on or play audio in response to a signal from an AirPlay device or a Bluetooth device. When the system is in Standby, pressing the Power button turns it on. To put the system into Standby when it is on, press the Power button for more than two seconds.

**NOTE: To conserve energy you can have the system automatically enter the Standby mode whenever no control buttons have been pressed and no audio signal has been present for 15 minutes.**

- Sleep (Power indicator glows solid amber): The Sleep mode mutes the BDS system's outputs and shuts off its OSD and front-panel display, but allows the system to automatically turn on and play audio in response to a signal from an AirPlay device or a Bluetooth device. When the system is in Sleep, pressing the Power button turns it on. To put the system into Sleep when it is on, press the Power button momentarily.
- ON (Power indicator glows solid white): When the BDS system is on it is operational.

**TV Power button**: After you program the remote control, pressing this button turns the TV's power ON and OFF.

**Eject button**: Press this button to eject a disc from the BDS system's built-in disc player. Before pressing this button, make sure no objects are blocking the disc slot opening.

**Source buttons**: Press one of these buttons to select a source device. This action will also turn on the BDS system from the Standby mode.

- The first press of the Aux button switches the BDS system to the last-used of the sources such as Coaxial Digital, Optical Digital 1, Optical Digital 2, Analog Audio I, Analog Audio 2, and HDMI ARC. Each successive press advances the BDS system through those sources. Pressing the Aux button also places the remote into the auxiliary-component control mode, enabling the remote to use any pre-programmed and/or learned functions.

**NOTE: You must use the Home menu to select Bluetooth and network-based sources (DLNA, Pandora® and Picasa™).**

**Pop-Up button**: Pressing this button while playing a Blu-ray Disc recording or DVD displays its disc menu.

**NOTE: This feature is disc-dependent. Not all DVDs have pop-up menus. If a DVD has no pop-up menu, pressing the Pop-Up button may display the disc menu, depending on how the disc's menu system is authored.**

**Display button**: When you are playing Blu-ray Disc and DVD recordings, pressing this button activates a bar display containing information about the currently-playing disc or program. When you are playing a video or photo slideshow from an inserted USB device, pressing this button displays the Status bar. The button does not function when the BDS system is playing materials from an iOS device, an auxiliary source or the radio.

**Channel +/– buttons:** These buttons have no effect on the BDS system, but can be programmed to control functions on an Aux component.

**Volume +/– buttons:** Press these buttons to increase or decrease the volume of the BDS system's speaker outputs.

**NOTE: The Volume +/– buttons do not change the volume of the HDMI audio output.**

**IMPORTANT: Do not turn the volume buttons up to or past the point where the audio from the speakers becomes distorted. Doing so can damage the speakers.**

**Mute button**: Press this button to mute the sound from the BDS system's speaker outputs. Press the button again to unmute the sound.

**NOTE: The Mute button does not mute the HDMI audio output.**

**Top Menu button**: Displays the top menu of the Blu-ray Disc or DVD that is playing.

**NOTE: This feature is disc-dependent. Not all DVDs have top menus. If the DVD has no top menu, pressing the Top Menu button may display the disc menu, depending on how the disc's menu system is authored.**

**Surround button**: Pressing this button cycles through all of the surround-sound modes that are available for the active program. Each press of the Surround button will change to the next mode in line. A pop-up display will appear, showing the modes as you cycle through them.

**NOTE: Not all surround modes will be available for all programs.**

**Transport Control buttons**: These buttons control the BDS system's built-in Blu-ray Disc player, iOS and USB devices and streaming sources. When the remote is in the Aux component control mode, they can control functions of the auxiliary component.

**Replay button**: Press this button to replay the previous 10 seconds of media playing on Blu-ray, DVD, CD, USB and data discs.

**Repeat button**: When the BDS system is playing a Blu-ray Disc recording, pressing this button cycles through the repeat modes such as Chapter, Title, OFF.

**NOTE: Not all Blu-ray discs support repeat playback.**

When the BDS system is playing a CD or listening to media stored on an iPod or USB device, this button cycles through the repeat modes such as Track, All, OFF.

**Home button**: Pressing this button returns the on-screen display to the Home screen from whatever screen is active when the button is pressed.

**Back button**:Pressing this button exits the current on-screen menu and displays the previous screen.

**OK button**: Press this button to select the highlighted item on the on-screen menu.

**Cursor buttons**: Use these buttons to navigate through items on the on-screen menu.
**Keypad button**: Press this button to display a 10-keypad for entering letters and numbers, such as for network setup, disc track/chapter search and so on.

**Options button**: Pressing this button displays any available options for the item that is active at the time the button is pressed. When listening to an Aux source, pressing the Options button lets you adjust the audio delay to eliminate "lip sync" errors between the sound and picture when watching video programs with sound playing through one of the system's rear-panel audio inputs.

**Program (Red) button**: Press this button to create a programmed playback list for the currently-playing disc.

**Zoom (Blue) button**: Press the Zoom button to zoom in on or recede from a video image or slide. Use the Navigation buttons to zoom in on different sections of the image.

**NOTE: This function is disc-dependent for Blu-ray Disc recordings and DVDs. Not all discs can be zoomed in.**

**Bookmark (Green) button**: Press this button to activate the Bookmark function.

**Thumbnail (Yellow) button**: Press this button while playing a photo slide show to display thumbnail images of all photos in the slide show.

**Red, Green, Yellow and Blue buttons**: When the BDS system is playing a Blu-ray Disc recording, these buttons can activate features and menus that may vary from disc to disc. Refer to the menu instructions for each particular disc for more information.

**NOTE: These Blu-ray Disc functions may override the Bookmark, Thumbnail, Program and Zoom functions.**

## Connections

**CAUTION: Before making any connections to the BDS system, ensure that the AC cord is unplugged from the system and the AC outlet. Making speaker connections with the system plugged in and turned on could damage the speakers or the BDS system.**

Speakers and the BDS system have corresponding (+) and (–) connection terminals.

Most speakers use red to denote the (+) terminal and black for the (–) terminal.

Your BDS system has color-coded speaker terminals:

| **BDS 280** | |
|---|---|
| White | left channel (+) |
| Red | right channel (+) |
| Black | (–) on both channels |

| **BDS 580** | |
|---|---|
| White | front left (+) |
| Red | front right (+) |
| Blue | surround left (+) |
| Gray | surround right (+) |
| Green | center (+) |
| Black | (–) on all channels |

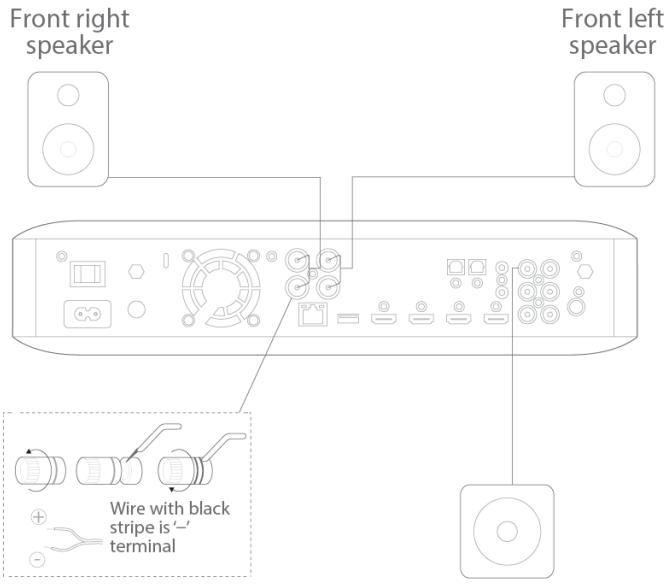
Black is used to denote the (–) terminals of all channels on the BDS system.

Be sure to connect each speaker identically: (+) on the speaker to (+) on the BDS system and (–) on the speaker to (–) on the BDS system. If one or more speakers are miswired, it results in thin sound, weak bass and a poor stereo image.

**CAUTION: Make sure the (+) and (–) bare wires do not touch each other or the other terminal. Touching wires can cause a short circuit that can damage your BDS system.**

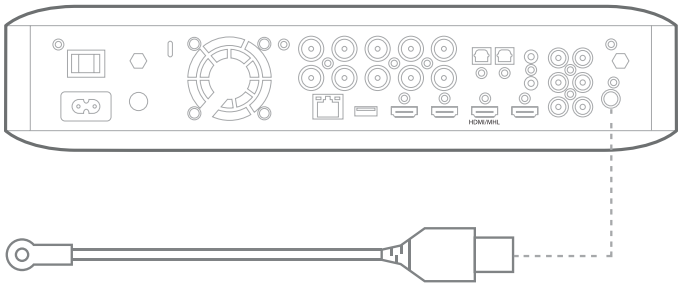
### Connecting a Powered Subwoofer

Use a mono RCA audio cable to connect the BDS system's Subwoofer output connector to your powered subwoofer; consult your subwoofer's owner's manual for information about making connections to your subwoofer.




### Connecting the FM Antenna

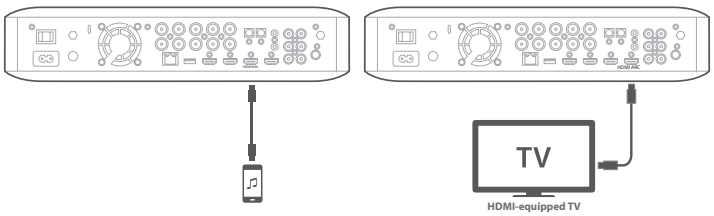
Connect the supplied antenna to the FM Antenna connector as shown in the following illustration. Fully extend the antenna wire and move it to different positions until you get the best reception of your favorite stations.



### Connecting a TV or Video Display

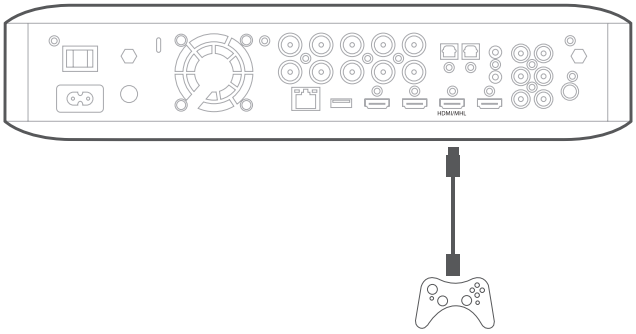
Use the supplied HDMI cable to connect the BDS system's HDMI output to your TV/video display's HDMI input. The BDS system is HDMI version 1.4b with 3-D and 30/36-bit Deep Color.

**NOTE:If you have devices (such as a digital tuner) already connected directly to your TV, you can feed their sound to the BDS system via the HDMI output connector's Audio Return Channel, and they will not require additional connections to the system.**



## Connecting Your HDMI Source Devices

If you have any source devices with an HDMI connector, using it will provide the best possible video and audio performance quality. Since the HDMI cable carries both digital video and digital audio signals, you do not have to make any additional audio connections for devices you connect via an HDMI cable.



## Connecting Your Digital Audio Source Devices

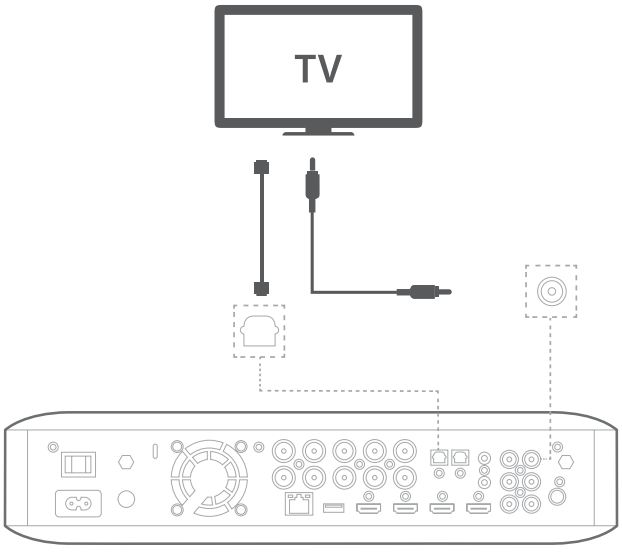
### Optical Audio Source Device

If up to two of your non-HDMI source devices have optical digital outputs, connect them to the system's optical digital audio connectors.

### Coaxial Digital Audio Source Device

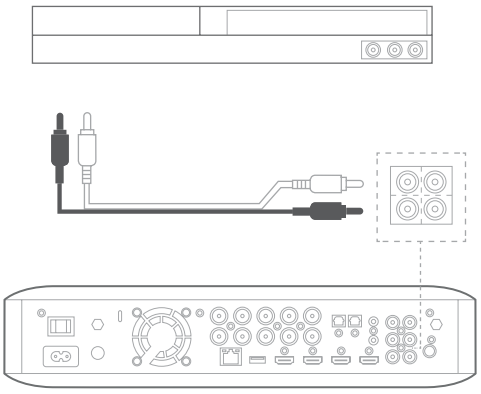
If one of your non-HDMI source devices has a coaxial digital output, connect it to the system's Coaxial Digital Input connector.

**NOTE: Make only one type of digital connection (HDMI, optical or coaxial) from each device.**




## Connecting Analog Audio Source Devices

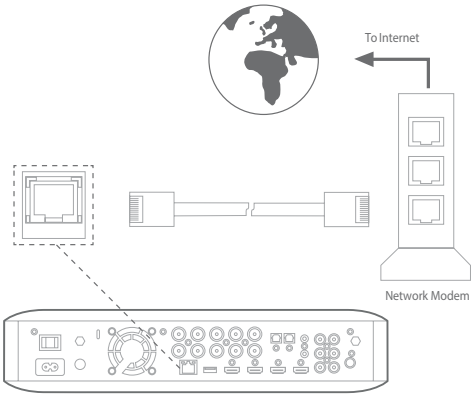
Use the system's Aux In connectors for up to two source devices that don't have HDMI or digital audio connectors.



## Connecting to a Local Area Network (LAN)

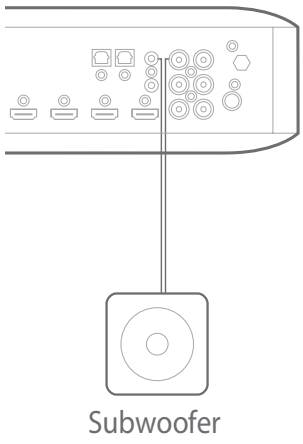
Use a Cat. 5/5E network cable (not supplied) to connect the BDS system's network connector directly to a network router, a network switch, a network modem or an Ethernet network wall jack that has Internet access.

**NOTE: If you have a wireless home network, you can optionally skip this step and use the BDS on-screen menus to connect it to Wi-Fi later on.**



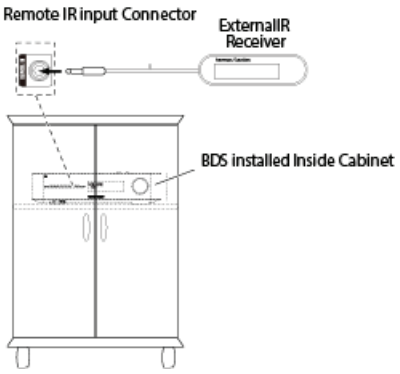

## Connecting the Subwoofer Trigger Output

If your system has equipment that can be controlled by a DC trigger signal, connect it to the system's Subwoofer Trigger connector with a mono 1/8-inch (3.5mm) mini-plug interconnect cable. The system will supply a 12V DC (100 mA) trigger signal at this connection whenever it is powered ON.



## Connecting the IR Remote Input

The BDS system is equipped with an IR Remote Input connector that lets you remotely control the system when you place it inside a cabinet or in a location that is out of the line of sight of the remote control. Connect an external IR receiver to the system's IR Remote Input connector.



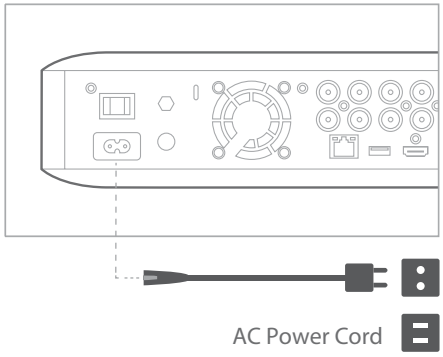

## Connecting the AC Power

The BDS system comes with a detachable AC power cord. This type of cord makes it easier for you to install and connect all other system wiring to the system's rear panel.

**NOTE:**

- **The power requirement for the BDS system is 110V – 240V AC, 50/60Hz, 130W (BDS 580 system) or 90W (BDS 280 system).**
- **Before connecting the AC power cord to a wall outlet, confirm that you have correctly made all of the speaker connections, video connections and audio component connections.**

Connect the female end of the system's detachable power cord to the rear panel AC Power input. Plug the other end into a working, unswitched AC outlet.




## Connecting Headphones

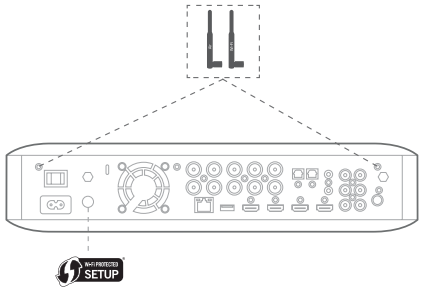
Your BDS system's headphone connection accepts a standard 1/8-inch (3.5mm) stereo headphone plug. When you insert the headphone plug into the connector, the system's speaker outputs will mute; the HDMI audio output to the TV will not mute.

When headphones are connected to the system's Headphone jack, pressing the remote's Surround button cycles between these two modes:

- Harman Headphone, which virtualizes a multichannel surround soundtrack down to two channels. This mode retains the soundtrack's original directional cues, allowing you to enjoy an enveloping surround-sound experience on any ordinary pair of stereo headphones.
- Headphone Bypass, which down mixes surround-sound programs into normal stereo. This mode does not retain any multichannel directional cues that may be in the original surround-sound program.

## Connecting to Network through Wi-Fi

You can connect the unit to the internet through Wi-Fi.



The following instructions help you to connect your unit to the network.

- From the home screen, select **Settings > Network**.
- Make sure Network Connection is set to ON.
- Set Type to **Wi-Fi**.
- Select your preferred method of connecting to your wireless network under **Setup Wi-Fi**.

There are four options for setting up wireless networks:

- Choosing a wireless network
- Configuring Wi-Fi by iOS
- WPS PBC (Push Button Control)
- WPS PIN

**Choosing a Wireless Network**

To choose a wireless network:

1. Select **Choose a network** from the **Setup Wi-Fi** list.
2. Follow the instructions on the screen to select your wireless home network and enter your security password, if applicable.

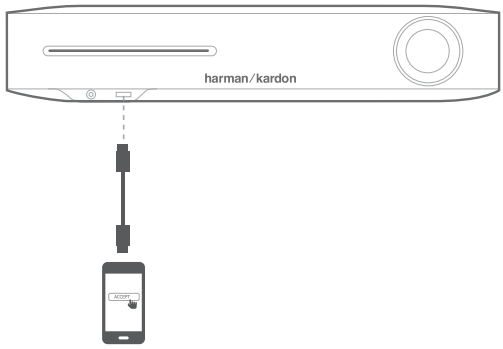
**Configuring Wi-Fi by iOS**

Connect any iOS device (iPhone, iPod touch or iPad) to the front panel USB port of the BDS. Make sure Wi-Fi is enabled on your iOS device and that it is currently connected to your wireless home network.

**NOTE: iOS version 5 or higher is required for iOS Wi-Fi sharing.**

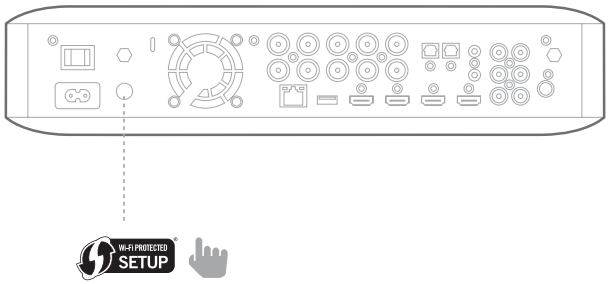
1. Select **Configure Wi-Fi by iOS** from the **Setup Wi-Fi** list. A pop-up will be displayed on your iOS device.
2. Select **Allow** to confirm that you want to share your Wi-Fi settings.

3. The connection should now be established automatically.
   Check the status on your TV for confirmation



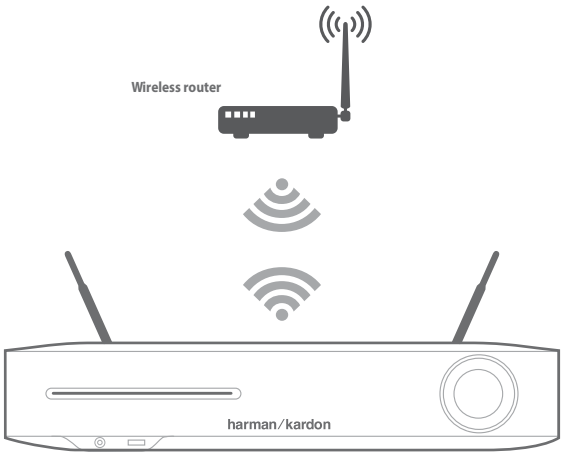

**WPS PBC (Push Button Control)**

1. Select **WPS PBC** from the **Setup Wi-Fi** list.
2. Press the **WPS** button on the rear panel of the BDS.
3. Next go to your wireless router and press its **WPS** button.
4. The connection should now be established automatically
   Check the status on your TV for confirmation.




**WPS PIN**

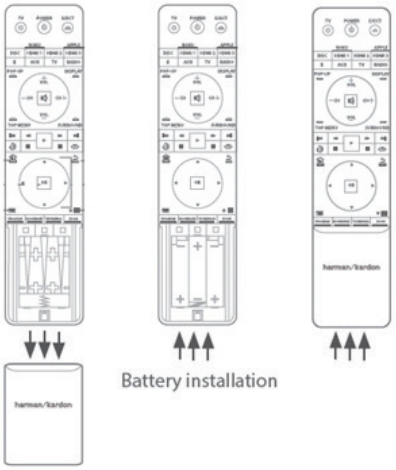
1. Select **WPS PIN** from the Setup **Wi-Fi** list.
   A PIN code is displayed on the screen.
2. Enter this same PIN on your wireless router's internal web page to connect. See your router's user manual for more details.




# Preparing the Remote Control

## Installing the Batteries

Your system's remote control uses three AAA batteries (supplied). Insert the batteries as shown in the illustration, making sure to observe the correct polarity.




## Using the Remote Control

When using the remote control, remember to aim it towards the system's front panel. Make sure that no objects, such as furniture, block the remote's view of the system. Bright lights, fluorescent lights, and plasma-video displays may interfere with the function of the remote.

- The remote control has a range of about 20 feet (6.1m), depending on the lighting conditions.
- You can use the remote at an angle of up to 30° to either side of the BDS system.

If the remote seems to operate intermittently, or if pressing a button on the remote does not cause the remote control backlights to light up, make sure that the batteries are inserted correctly. If the remote still operates intermittently, replace all three batteries with new ones.

## Programming the Remote Control

In addition to controlling the BDS system, you can program the unit's remote to control one auxiliary (aux) component. The remote is also capable of learning codes directly from other remotes. This ability allows you to combine learned commands with programmed codes, making the remote capable of controlling more than one aux component. Typical aux components would be your TV, a satellite system or a cable system. The remote will control the aux component(s) only when the aux source button has been pressed. Pressing any other source button will put the remote back into the normal BDS system control mode.

To Program the Remote to Control an Aux Component:

1. Check the set-up codes for the component type (for example, TV or cable box) and its brand in the Aux Component Remote-Control Code List, starting on page 23.

2. Turn on your auxiliary component.
3. Short press the aux button and then release it.

**NOTE: The remote will remain in the programming mode for 20 seconds; you must perform step 4 within that time period.**

4. Aim the remote towards the component you just turned on and enter a set-up code number from step 1, above. Use the Program (Red) button for the first digit; the Bookmark (green) button for the second digital; the Thumbnail (yellow) button for the third digit; and the Zoom (Blue) button for the last digit. If the code to be entered is "0" you do not need to press the corresponding button; for numbers "1" and above, press the button that number of times. When you have entered all four digits, press the OK button – the component should now turn off.
5. If the remote control turns the component off in step 4, press the aux button once again to store the set-up code number. To confirm that the code has been saved, the LED indicator will blink three times.

**Auto Search Method**

If you have tried all of the four digit set-up code numbers listed for your device and it still did not turn off, you should use the following auto search Method.

1. Turn on the device you would like the BDS remote to control, either manually or with its own remote control.
2. Short press the aux device button for three seconds; the BDS remote will enter set-up mode.

**NOTE: The remote will remain in the programming mode for 20 seconds; you must perform step 3 within that time.**

3. Select the region you are located in and the type of device that you are programming: for a US TV, do not press any of Program (Red), Bookmark (green), and Thumbnail (yellow) or Zoom (Blue) buttons.
   - For an EU TV, press the Program (Red) button one (1) time
   - For an HDTV, press the Program (Red) button two (2) times
   - For a US cable tuner, press the Program (Red) button three (3) times
   - For an EU cable tuner, press the Program (Red) button four (4) times
   - For a US satellite tuner, press the Program (Red) button five (5) times
   - For an EU satellite tuner, press the Program (Red) button six (6) times
4. Point the BDS remote control toward the device and press the Cursor Up button; each button press sends a power signal for one set-up code number. Continuing to press the Cursor Up button will produce a quick scanning of the set-up code numbers. Release the Cursor Up button as soon as the device turns off. If you go past the correct set-up code number, you can return to it by pressing the Cursor Down button, one code number at a time, until the device turns back on.
5. If the BDS remote control turns the component off in step 4, press the Aux button once again to store the set-up code number. To confirm that the code has been saved, the LED indicator will blink three times.

**Programming Individual Button Codes on the Remote**

You can program codes from other component remotes onto the BDS remote's buttons that are shown shaded in the following illustration:

1. Press and simultaneously hold down the Aux and the Program (Red) buttons on the BDS remote control for at least three seconds. The remote's Aux button will blink once.
2. Place the BDS system remote and the remote from which you want it to learn codes head-to-head about 1 inch (2.5cm) apart, with their IR transmitter windows facing one other.
3. Press the button on the BDS remote to which you want to teach a command. (The remote will remain in the learning mode for 20 seconds after the button is pushed.)
4. Press the button on the other remote that you want to teach to the BDS remote. When the IR code has been received and stored, the Aux button's LED will flash three times, and the BDs system remote will remain in the learning mode, ready to learn another code. If no IR code is received within 20 seconds, the Aux LED will flash rapidly several times, and the remote will exit the learning mode.
5. Repeat step 3 and step 4 for each command you want to teach the BDS system remote.

**NOTE: If the aux button's LED goes out at any time, you will need to begin again from step 2 until it blinks three times.**

6. Press the Aux button once, or wait for 20 seconds to cancel learning program mode.

**NOTE: Any previously stored setup code will be erased when program mode is activated.**

**Channel Control "Punch Through" Commands**

After programming the remote to control an auxiliary (aux) component, you can also program it to control the aux component's channel up/down and transport functions (play, pause, etc.) even when the remote is not in the aux control mode. for example, if the remote is programmed to operate your TV in the aux control mode, you can also have the TV's channel +/– functions "punch through" and operate even when the remote is in the Disc, Radio or USB control modes, for example.

**NOTE: When this feature is active, TV or satellite channel +/– functions will override any existing channel controls set to that mode.**

1. Press and hold the Source button for the main device the remote will be operating. The button will light up, go dark and then light up again. Release the button.
2. Select the type of punch-through programming.
   a. For "punch-through" channel control, press the Channel + button.
   b. For "punch-through" transport control, press the play button.
3. Press the Aux button. The original source button will flash to confirm operation. You can repeat step 1 – step 3 for any of the remote's source buttons (Disc, Radio, etc.).

**NOTE: Punch-through channel and transport commands will override the existing commands for those buttons in the source modes you program. To undo Punch-through programming, follow the same steps as above, but press the same source button in step 1 and step 3.**

**Erasing a Learned Code and Restoring the Original Button Code**

1. Press and simultaneously hold down the Aux and Bookmark (green) buttons on the BDS remote control for at least three seconds. The BDS remote will enter the learning mode after the Aux button LED turns on.
2. Press and release the remote control button that you want to erase. The aux button's LED will flash three times.
3. To erase other buttons, press the selected buttons.
4. To exit the erase mode, press aux button.

**Resetting the Remote to Factory Default Condition**

1. Press and simultaneously hold down the Aux and Thumbnail (yellow) buttons on the BDS remote control for at least three seconds.
2. The Aux LED will flash three times and exit learn-erase mode.

**NOTE: By erasing all learned codes, all of the BDS remote buttons will return to their original functions.**

**Controlling an Apple TV**

If you have connected an apple TV to the BDS system's HDMI 3 input, you can also use the BDS remote to control an apple TV that is streaming audio and video files stored on your home network, or accessing media from an Internet service such as Netflix, as shown in the illustration below.

Select any other input source to return the BDS remote to its normal operation.

**Using the Remote after it is Programmed**

Pressing the remote's Aux Input button will put the remote into the auxiliary-control mode, and it will control the auxiliary component(s) via the codes you have programmed into it.

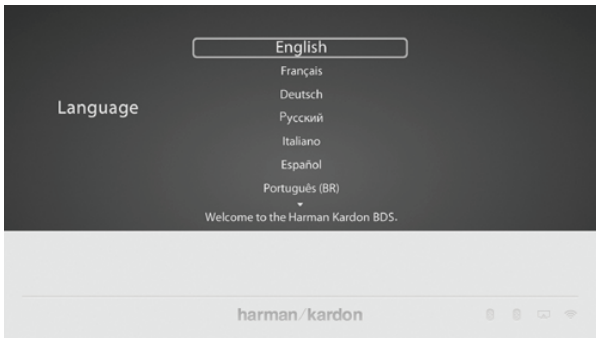
To switch the remote back to the BDS system-control mode from the auxiliary-control mode, press any of the other Input buttons or the Home button.

## Setting up the System

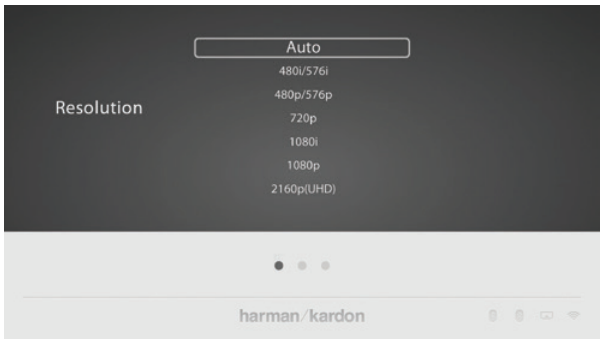
To set up your BDS system, you will use the remote to navigate through all of the onscreen menus and to make selections from them.

- Use the Cursor Up/Down buttons to navigate through the menu list.
- To select a highlighted item, press the OK button. The screen will change depending on your selection.
- To return to the previous screen, press the back button ◄◄.

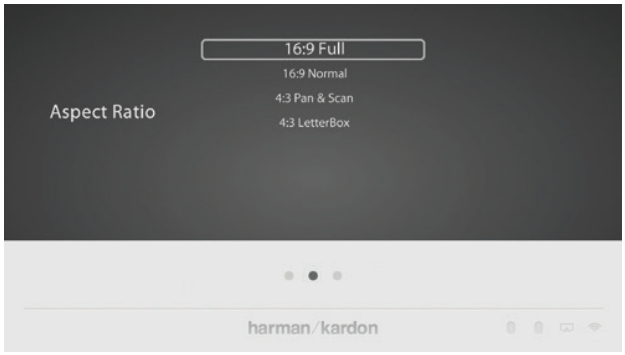
1. When you turn on your BDS system for the first time, the on-screen menu will show the Initial Setup screens. The first screen allows you to select the language you want to use.



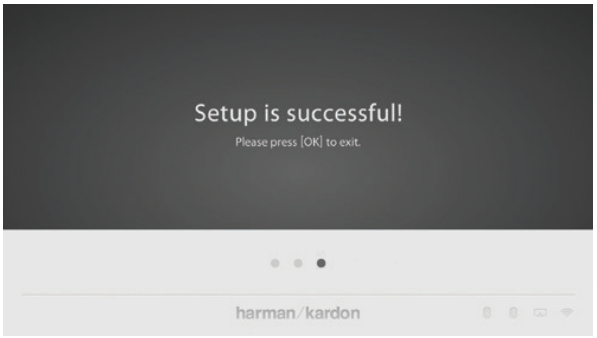

2. Press OK, and the initial setup Resolution screen will be displayed.




3. Highlight your choice and press OK. Next, the initial setup Aspect Ratio screen will appear. 16:9 Full is the best choice for most displays.



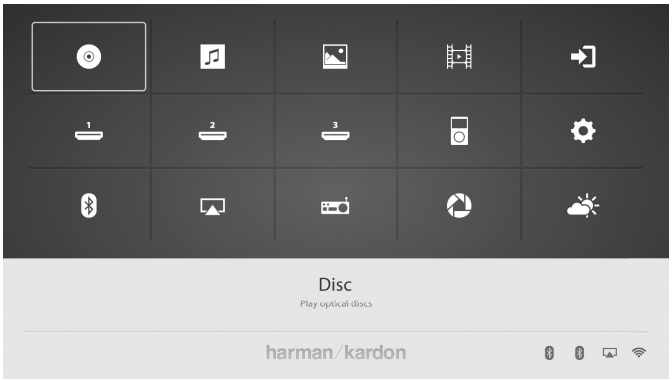

4. Highlight your choice and press the OK button. Setup is complete. Press OK once more to finish Initial Setup and show the home menu.



## Using the BDS System

**Home Menu**

Press the HOME to display the Home Menu screen:




If a disc has been inserted into the system's built-in disc slot, it will be displayed on the list as either CDDA (CD), DVD Video (DVD) or Blu-ray Disc. If you have inserted a USB device into the system's USB port, it will appear on the list as USB.

**NOTE: Digital and analog audio sources connected to the system's rear-panel digital and line inputs will not appear on the list. These sources can be accessed from the AUX source in the upper right of the Home Menu screen or by pressing the Aux input button on the remote control.**

To select a source from the list, use the Cursor Up/Down buttons to highlight the desired source, and then press the OK button to select it. You can also select a source directly by pressing its Input button on the remote.

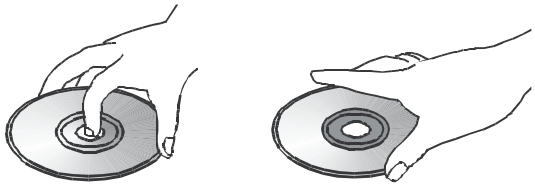
**NOTE: Depending on the sources available in your region, there may be a second Home Menu screen for additional sources. Press the Cursor Down button while the cursor is on the bottom row of sources to access this additional screen.**

## Using the Disc Player

**You Should Know**

**Disc Handling Precautions**

- To keep the disc clean, handle the disc by its edge. Do not touch the surface.



- Do not stick paper or tape on the disc. If there is glue (or a similar substance) on the disc, remove the substance completely before using the disc.
- Do not expose the disc to direct sunlight or heat sources such as hot air ducts or leave it in a car parked in direct sunlight, as there can be a considerable rise in temperature inside the car.
- After playing, store the disc in its case.
- Do not write on the label side with a ball-point pen or other sharp writing utensils.
- Be careful not to drop or bend the disc. Disc Cleaning Precautions
- Before playing, clean the disc with a cleaning cloth. Wipe the disc from the centre out.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.

**Regional Coding**

Your BDS receiver is designed to be compatible with region management information that is encoded on most Blu-ray Disc recordings and DVD recordings. If there is a region code on a disc other than the one your BDS receiver is designed for, it will not play in your BDS receiver.

**Copyright**

Audio-visual material may consist of copyrighted works that must not be recorded without the permission of the owner of the copyright. Please refer to relevant laws covering copyright protection.

**Copy Protection**

Your BDS receiver is in compliance with HDCP (High-Definition Copy Protection), and a video display connected via the HDMI output must also be HDCP-compliant.

The BDS receiver supports Rovi copy protection. On Blu-ray Disc recordings and DVD discs that include a copy-protection code, if the contents of the disc are copied using a VCR, the copy-protection code prevents the videotape copy from playing normally.

**Supported Disc Formats**

The BDS receiver can play the following types of discs (5"/12 cm, and 3"/8 cm size):

- BD-Video (single-layer or double-layer)
- DVD-Video
- DVD+R/+RW
- DVD-R/-RW
- CDDA (CD digital audio)
- CD-R/RW

**NOTE: The compatibility and performance of dual-layer discs is not guaranteed.**

**Loading and Playing a Disc**

Hold the disc horizontally when loading it, and insert it gently into the Disc slot. The disc loading mechanism will take the disc and slide it into the unit.

- Do not load more than one disc into the Disc slot.
- Do not load the disc upside down.

After loading a disc into the player, press the **Play** button to begin playback.

Use the **Play**, **Pause**, **Stop**, **Prev/Step**, **Next/Step**, **Search Forward/Slow** and **Search Reverse/Slow** buttons to control disc playback.

**Playback Features**

**Content play back control (Picture)**: You can control the picture using the buttons such as **Play/Pause/Stop/Previous/Repeat/Next/Rotate/Zoom**.

**NOTE: The unit shall support the background music and picture slideshow simultaneously.**

**Content play back control (Music)**: You can control the picture using the buttons such as **Play/Pause/Stop/Previous/Repeat/Next/Rotate/Backward/Forward**.

**Content Play back control (video)**: You can control the picture using the buttons such as **Play/Pause/Stop/Previous/Repeat/Next/Rotate/Backward/Forward**.

**NOTE: The unit shall support the following video formats; AVI/MPG/H264/MKV.**

## Using DLNA

The Harman Kardon BDS system supports DLNA 1.5 Digital Media Player (DMP), Digital Media Renderer (DMR). Only supported media files will be played or supported metadata displayed on the screen. The supported files include audio, video, and photographs. The BDS system allows two DLNA servers to work simultaneously. It supports both the wired and wireless interfaces. The BDS can be controlled from an external control point. The following action can be controlled from an external device:

- Stop – Terminates the streaming
- Source selection – Terminates the streaming controlled by external control point and goes to respective source mode
- Power- Terminates the streaming controlled by external control point and goes to sleep mode
- Volume control – Volume can be controlled by the external control point
- Clear/Exit – Terminates the streaming controlled by the external control point and goes to the previous mode/screen
- Home – Terminates the streaming controlled by the external control point and goes to home screen

### Internet Services

The Harman Kardon BDS system supports various internet services such as Picasa, AccuWeather, and Pandora (US, Canada, Australia, and New Zealand only).

**Picasa**: Picasa is an image viewing, organizing and editing service. With BDS system, you can browse public Picasa photos or sign into your Picasa account to view your own. The BDS system supports Picasa service through network.

**AccuWeather**: AccuWeather is a popular weather forecasting website. You can get the weather forecast of many places throughout the world. You can access Accuweather in the BDS system through network and get the weather report from across the world.

**Pandora**: Pandora is a popular Internet radio service. BDS system supports Pandora service if connected to the Internet.

## Playing Files from USB Devices and Data Discs

Your BDS system can play MP3 (up to 320 kbps bitrate) audio files, display JPEG photos and show MPEG 1 (layer 1), MPEG 2 (layers 2 and 3), and DivX home theatre profile audio/video files stored on a USB device or a CD/DVD data disc.

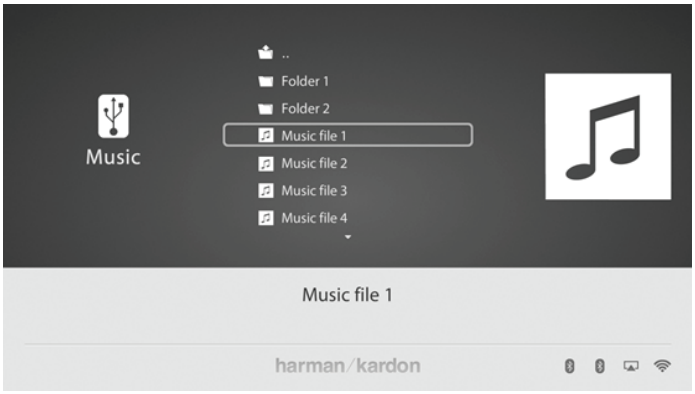
To access files on a device inserted into the system's USB ports, press the Home button and select Music, Photos, or Videos from the sources.

The screen will then show the device's file structure. Selecting a folder will show all files of the selected type of media in the folder. If there are files of the selected type in the device's root directory, they will also be shown.

To move up one directory level, press the Cursor Left button or select the arrow folder.

### Playing Music Files

Music files can be played from connected USB drives, DLNA servers on your home network, or inserted data discs (Blu-ray, DVD, or CD). From the Home Menu screen, select Music. Select a folder containing music files and highlight a music file in the folder.




Selecting a music file plays the file. If there are other music files in the folder that follow the selected file, the system will play them in the order they appear on the on-screen display.

If a selected MP3 file has an album cover-art ID3 tag, the art will be displayed on the screen.

Use the Play, Pause, Stop, Prev/Step, Next/Step, Search Down/Slow and Search Up/Slow buttons to control music-file playback. See Remote Control Functions, on page 8, for more information about the functions of these buttons.

When the BDS system is playing music files from a USB device or CD data disc, the Repeat and Options functions are slightly different from when they are playing Blu-ray Disc recordings, DVDs and music CDs.

- Repeat button: Pressing this button cycles through the following repeat modes: 1 (song), All (folder), OFF. The active repeat mode is indicated in the screen's top bar.
- Options button: Pressing this button displays any available options for the song currently playing:
- File: Select a song to play.
- Time: Display the track's elapsed time or the track's time remaining.
- Play Mode: Plays songs in their normal order, in random order (until you press the Stop button) or in shuffle order (plays each song in the folder one time in random order, then returns to the directory).
- Bitrate: Shows the bitrate of the song currently playing.
- Advance: Performs a rapid, audible search forward through the song.

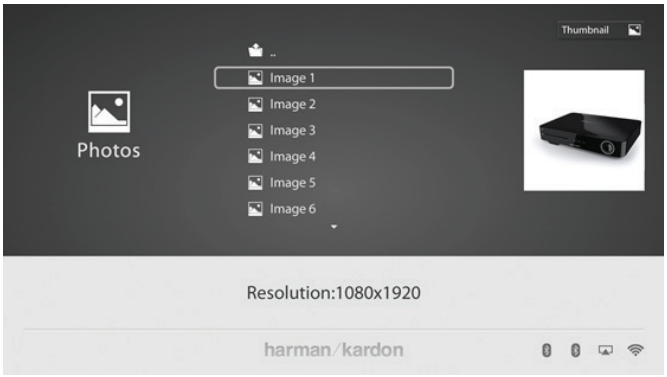
- Replay: Each press of the OK button jumps back ten seconds during play.
- Find: Lets you advance to a precise time in the track.

While playing music files from a USB device or data CD, you can also view photos that are on the same media. Press the Home button while the music file is playing, navigate to a folder containing photo files, and select a photo file to begin a slide show.

## Viewing Photos

Photo files can be played from connected USB drives, DLNA servers on your home network, or inserted data discs (Blu-ray, DVD, or CD).

1. From the Home Menu screen, select Photo.
2. Select a folder containing photo files and highlight a photo file in the folder. A thumbnail of the highlighted photo will be displayed on the right of the screen.




3. Use these remote buttons while viewing photos:
   - Play button: Press this button to begin a slide show that displays the photos in the current folder or directory level (starting with the highlighted JPEG) for 15 seconds in the order they appear in the folder.
   - Pause button: Press this button to freeze the current photo on the screen. Press the Play button to resume the slide show.
   - Stop button: Press to end the slide show and return to the directory.
   - Next/Step and Previous/Step buttons: Press these buttons to skip to the next or previous photo file in the slide show or directory.
   - Cursor Up button: Pressing this button while a photo is displayed rotates the photo 180°.
   - Pressing this button while the directory list is displayed highlights the previous item in the directory.
   - Cursor Down button: Pressing this button while a photo is displayed shows a mirror image reflection of the photo. Pressing this button while the directory list is displayed highlights the next item in the directory.
   - Cursor Left button: Pressing this button while a photo is displayed rotates the photo 90° counter clockwise. Pressing this button while the directory list is displayed jumps to the next higher directory level.
   - Cursor Right button: Pressing this button while a photo is displayed rotates the photo 90° clockwise.
   - Options button: Pressing this button while a photo is displayed shows the Options menu, which gives you the following options:
     - File: Select a file to view.
     - Play Mode: View files in their normal order, in random order (until you press the Stop button) or in shuffle order (displays each image in the folder one time in random order, then returns to the directory).
     - Slide Show: Select the amount of time you want each slide to be displayed: 5 seconds, 15 seconds or 30 seconds.
     - Transition: Select from various types of image-to-image transitions.

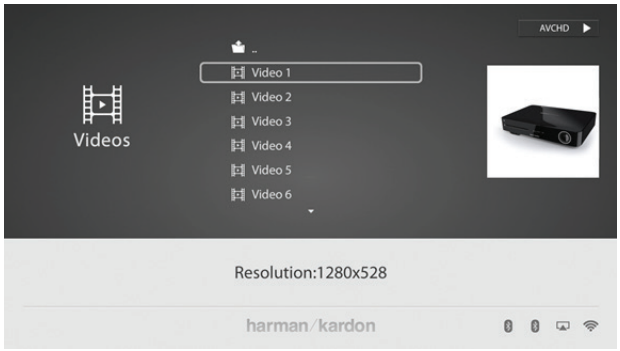
Pressing the Options button when a directory is displayed shows the Playlist Options box.

- Thumbnail (Yellow) button: Pressing this button while playing a slide show displays thumbnail images of all photos in the slide show. Use the Cursor and OK buttons to highlight and select images to view.
- Zoom (Blue) button: Pressing this button during a slide show freezes an image and zooms in 2x size. Additional presses of the button change the zoom to 3x, 4x, 1/2x, 1/3x and 1/4x size.

## Playing Videos

To play videos in BDS system:

1. In the top directory, select the Video or AVCHD folder.
2. Select a folder containing video files and highlight a video file in the active folder.
   The video will automatically play. If there are other video files in the folder, the BDS system will play each one in the order they appear on the on-screen menu.




3. Use the Play, Pause, Stop, Prev/Step, Next/Step, Search Forward/Slow and Search, Reverse/Slow buttons to control music file playback.
   When the BDS system is playing video files from a USB device or CD data disc, the Repeat and Options functions are slightly different from playing Blu-ray Disc recordings and DVDs.

- Repeat button: Pressing this button cycles through the repeat modes such as 1 (current video), All (folder), OFF.
- Options button: Pressing this button displays any available options for the video that is currently playing File, Title, Chapter, Time, Play Mode, Audio, Subtitle, Code Page, Bitrate, Advance, Replay, Adjust Lip Sync and Find.

### Viewing HDMI Sources

Plug in an HDMI source device into the HDMI port on the back panel of the BDS system to view the available HDMI sources and use the remote control to accept the HDMI source you want. Connecting to an HDMI source allows you to transmit digital audio and video signals.

## Listening to Audio Sources

Press the Aux button on the remote control. The system will switch to the audio input that was selected last. Subsequent presses of the Aux button will advance through the audio inputs in the following order: Coax In, Optical In 1, Optical In 2, Aux In 1, Aux In 2 and HDMI ARC (Audio Return Channel). The aux Input Now Playing screen will be displayed on the TV or flat-panel display.

In addition to playing the aux source through the system, pressing the Aux button places the remote in the aux-control mode. If you have programmed the remote to control an auxiliary component (either by entering in a code number or teaching commands to the remote), the remote operates according to that programming mode.

**Lip sync delay**: When playing an Aux source, audio and video processing circuitry may create a slight delay between the picture and sound. Pressing the Options button helps you adjust the audio delay to eliminate "lip sync" errors that may occur between the sound and picture in video programs with sound playing through one of the system's rear panel audio inputs. Use the Cursor Up/Down buttons to increase or decrease the audio delay until the perceived lip-sync errors disappear and the sound and picture are properly synchronized. The amount of audio delay is shown on the system's front panel Information display.

## Listening to your iPod/iPhone/iPad

To listen to your iPod/iPhone/iPad through the BDS system:

1. Insert your iPod, iPhone or iPad into the USB port on the front panel of the BDS system.
2. Select iPod icon from the home screen.

   A Now Playing screen will be displayed on your TV.

Use the following remote control buttons to browse and select content on your iPod/ iPhone/iPad and control the device during playback:

- Cursor and OK buttons: Use these buttons to navigate and select items from the iPod/ iPhone/iPad menus.
- Exit button: Pressing this button while playing content displays the iPod/ iPhone menu. Pressing this button while a menu is displayed exits that menu and displays the previous screen.
- Previous/Step button: Press this button once to skip to the beginning of the current track. Press the button twice to skip to the beginning of the previous track.
- Next/Step button: Press this button to skip to the beginning of the next track.
- Search/Slow Reverse button: Press this button to search backward through the current track.
- Search/Slow Forward button: Press this button to search forward through the current track.
- Stop button: Press this button to stop playback.
- Play button: Press this button to play the item appearing on the system's display.
- Pause button: Press this button to pause the item that is playing. Pressing this button while the iPod/iPhone device is paused will resume play.
- Channel +/– buttons: Pressing the Channel + button moves up ten items in the active menu. Pressing the Channel – button moves down ten items in the active menu. Use these buttons to navigate through long menu lists quickly.
- Home button: Pressing the Home button will switch the display to the Home screen while you continue to hear the iPod/iPhone content through the BDS system. To display the iPod Now Playing screen again, press the Exit or Cursor Left button.
- Red button: Pressing the red button will toggle between modes such as Random Play (albums), Random Play (songs), Random Off.
-

### Bluetooth

Bluetooth connectivity lets you stream audio wirelessly from a device that has been paired with the BDS receiver. After you have paired the BDS receiver with a Bluetooth device, you can select "Bluetooth" as the active source from the Home Menu.

## Listening to Media via AirPlay®

The Harman Kardon BDS system supports AirPlay®. BDS is compatible with all devices that support AirPlay and the BDS volume can be controlled by AirPlay. If you have connected a BDS 280 or BDS 580 system to your home network, you can stream audio to it via AirPlay from compatible Apple devices with iOS 4.2 or newer and computers that have iTunes 10.1 or newer that are joined on the same network.

To initiate AirPlay streaming to the BDS system from a computer with iTunes:

- Launch **iTunes**, click the **AirPlay** button that appears at the bottom of the computer's **iTunes** window, and select **HK BDS** in displayed pop-up list.

To initiate AirPlay streaming from an iPod, iPhone or iPad device:

## Listening to FM Radio

**Radio Input button**: Pressing this button selects the BDS system's built-in FM radio as the system's active audio source. Pressing this button also puts the remote control into the control mode for the radio.

**NOTE: Pressing this button when the BDS system is in the Standby mode will switch it on. If no station is found in the seek mode, it will come back to the original frequency.**

**Auto scan**: Press the **Auto scan** button on the on-screen display to automatically scan the FM band and automatically set strong frequencies as presets.

**OK button**: Pressing this button sets the currently tuned-in frequency as a preset station.

**Previous/Step button ⏮ and Next/Step button ⏭**: Pressing these buttons scans to the next higher or lower receivable radio station.

**Search/Slow Reverse button ◀◀ and Search/Slow Forward button ▶▶**: Pressing these buttons increases or decreases the tuned frequency.

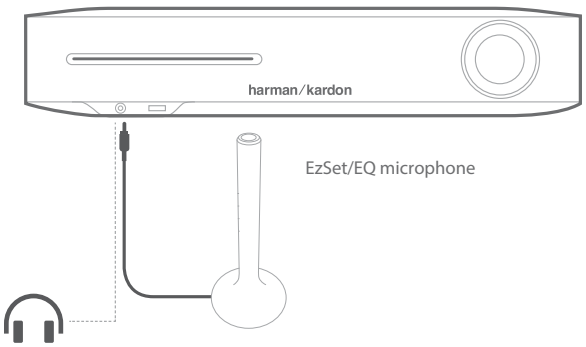
**Channel +/– buttons**: Pressing these buttons changes to the next higher or lower preset station.

**Home button**: Pressing the **Home** button will switch the BDS to the Home Menu screen while the radio continues to be heard through the BDS system. To display the Radio **Now Playing** screen again, press the **Exit** or **Cursor Left** button.

## Configuring BDS for Speaker System

Before you use your BDS, you need to configure it to work with your particular speaker system. Harman Kardon's EzSet/EQ system uses the supplied EzSet/EQ microphone to perform this important step automatically.

**Configuring BDS for your speaker system**




**IMPORTANT: Press the remote control "Disc" button before performing the EzSet/EQ procedure. The EzSet/EQ procedure is only available when the Disc input is selected.**

To connect the microphone:

1. Plug the supplied EzSet/EQ microphone into the BDS's front panel headphone connector.
2. Place the microphone at ear height in your main listening position.
3. Press the remote control's **Home** button. The system's **Home Menu** screen will be displayed on the TV.
4. Use the cursor to highlight **Settings** then press **OK** to select it. The system settings menu will be displayed.
5. Use the down cursor button to select **Sound** and press **OK**.
6. Use the cursor to select **EzSet/EQ** and press **OK**.
7. Remain silent while the test noise plays through the speakers. As the test noise circulates among the speakers, the screen will show which speaker is being tested.
8. When the testing process is complete, the **Testing** message on the screen will change to **All tests done!**
9. Press the **Back** button to exit the EzSet/EQ test procedure.

**NOTE: If the test fails, the 'Testing' message on the screen will change to 'EzSet/EQ failed'. Make sure all speakers are connected and the room is quiet.**

10. Press the **Back** button, make sure all speakers are correctly connected and perform the test again from step 5.

## Troubleshooting

| Problems | Solutions |
|---|---|
| The system does not power up (the Power indicator is not lit) | • Check whether the system's Power cord is properly plugged into the system's AC Power connector.<br>• Check that the Power cord is plugged into a working AC outlet. If the outlet is controlled by a switch, make sure the switch is set in the ON position.<br>• Check that the system's main power switch (located on the rear panel) is in ON position. |
| Sound plays through the speakers, but there is no TV picture | • Check the HDMI connection between the system and the TV.<br>• Check the HDMI connection or Component Video connection between the source device and the BDS system.<br>• Check that the TV is turned on and is set to the proper input source.<br>• Unplug the HDMI cable from the TV and plug it back in again. |
| There is no sound coming from just the subwoofer | • Check that the subwoofer's Power cord is plugged into a working AC outlet.<br>• Check that the subwoofer's power switch is in the ON position.<br>• Check that the Subwoofer Level control is not turned all the way down (fully counter clockwise).<br>• Check that the audio connection between the system and the subwoofer has been properly made.<br>• Check the system's Settings: Configuration menu to make sure that the subwoofer volume has not been set at 10dB. |
| There is a constant hum in the sound | • Check that all input cables are plugged all the way into their connectors.<br>• Check that all cables are at least 10 ft (3.3m) from fluorescent lights.<br>• Check that all cable connectors are clean. If necessary, wipe them with a cloth slightly moistened with alcohol.<br>• Set the subwoofer's power switch to OFF. If the hum goes away, there is a ground loop between the subwoofer and the system. Plugging the subwoofer's power cord into the same AC outlet that the system is plugged into should eliminate the ground loop. |

| Problems | Solutions |
|---|---|
| The disc does not play | • Check that the disc is inserted correctly (label side up).<br>• Check that the disc is the correct type: BD Video (single-layer or double-layer),<br>• DVD-Video, DVD+R/+RW, DVD-R/-RW, CDDA (CD digital audio), CD-R/RW. Other disc types will not play.<br>• Check that the disc surface is clean and not scratched. |
| There is noise or other interference in the picture while playing a Blu-ray Disc recording<br>or DVD | • Check that the disc surface is clean and not scratched. |
| The sound and picture are out of sync when playing to an Aux source | • Press the Options button and perform the Lip Sync adjustment to bring the sound and picture into synchronization. |
| Cannot tune in radio stations | • Check that the FM antenna is correctly connected.<br>• Adjust the antenna's position. If necessary, use a powered FM antenna or an outdoor FM antenna. |
| The system does not respond to remote-control commands | • Replace all three remote-control batteries with fresh ones, and make sure that they are installed with the correct polarity.<br>• Hold the remote closer to the system.<br>• Check that the system's remote sensor is in the line of sight of the remote control. |
| The remote does not control programmed components (TV or video) | • Check that you have pressed the remote's Aux button before trying to operate the component.<br>• Re-program and/or re-teach the component's commands into the remote. |
| The O symbol appears on the screen when you press a remote-control button | • The selected function is not permitted at the time the button is pressed. |
| The system does not respond to commands, or it behaves in an erratic way | • Unplug the system's power cord from the AC outlet, wait 30 seconds, then plug it back in. |

## Specifications

| BDS 280/580 | |
|---|---|
| **Audio Section** | |
| Frequency Response @1W | 20Hz – 20kHz, ±0.5dB |
| Slew rate | 40V/µsec |
| Continuous average power, stereo mode | 65 Watts per channel, 20Hz – 20kHz, @ <1% THD, both channels driven into 6 ohms |
| Input sensitivity/impedance (line inputs) | 250mV/> 10kΩ |
| Signal-to-noise ratio (IHF-A) | –90 dB |
| | |
| **FM tuner section** | |
| Frequency range | 87.5MHz – 108.0MHz (US and EU) |
| Usable sensitivity IHF | >14dBf |
| Signal-to-noise ratio (mono/stereo) | 55dB/55dB |
| Distortion (mono/stereo) | 0.3%/0.5% |
| Stereo separation | –40dB @ 1kHz |
| Image rejection | 70dB |
| IF rejection | 80dB |

| **General** | |
|---|---|
| Power requirement | 100 – 240V AC, 50/60Hz |
| Power consumption | 90W maximum; <0.5W standby |
| Dimensions | 400.2mm (L) x 283.8mm (W) x 78.5mm (H) |
| Weight | 3.56 kg (BDS 280), 3.72kg (BDS 580) |
| THD/1kHz | DVD/CD: 0.1% |
| Supported disc formats | 5-inch (12cm) or 3-inch (8cm) |

| **Video section** | |
|---|---|
| Television format | NTSC or PAL (selectable) |
| HDMI® version | With 3-D and 30/36-bit Deep Color |
| Video signal receiver | NTSC (USA) or PAL (EU) |

## Aux Component Remote-Control Code List

**TV/DVR**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| A MARK | 0132 | 0122 | 1088 | 1105 | |
| ACER | 0143 | 1167 | | | |
| ADMIRAL | 0192 | 1105 | 1088 | 1023 | |
| ADVENT | 0151 | | | | |
| AIWA | 0027 | 1110 | | | |
| AKAI | 0053 | 1093 | 1089 | 1056 | 1053 |
| | 1042 | 1022 | 1020 | 1011 | |
| AKAL | 0160 | 0123 | | | |
| AKURA | 1020 | | | | |
| ALBA | 1040 | 1020 | | | |
| AMPRO | 0164 | | | | |
| ANAM | 0122 | 0112 | 0109 | 0106 | 0045 |
| ANSONIC | 1049 | 1144 | 1145 | 1146 | 1147 |
| | 1148 | | | | |
| AOC | 0128 | 0123 | 0122 | 0037 | 0146 |
| | 0150 | | | | |
| APEX | 0154 | 2014 | 2016 | | |
| ARC EN CIEL | 1059 | 1056 | 1024 | 1019 | 1017 |
| ARCAM | 1017 | | | | |
| ARISTONA | 1086 | 1060 | 1048 | 1047 | 1033 |
| | 1025 | 1023 | 1022 | | |
| ASA | 1201 | 1096 | 1088 | 1023 | 1012 |
| AUDIOVOX | 0012 | 0155 | | | |
| AUTOVOX | 1088 | 1044 | 1025 | | |
| BANG & OLUFSEN | 1088 | | | | |
| BARCO | 1202 | | | | |
| BASICLINE | 1020 | | | | |
| BAUR | 1102 | 1077 | 1076 | 1075 | |
| BEKO | 1022 | | | | |
| BENQ | 0166 | 0170 | 1165 | | |
| BLAUPUNKT | 0084 | 1077 | 1076 | 1075 | 1011 |
| BLU:SENS | 0174 | 0178 | 0185 | 1098 | 1109 |
| | 1112 | 1120 | 1138 | 1170 | 1175 |
| BLUE SKY | 1144 | 1148 | 1149 | 1150 | 1151 |
| | 1152 | 1153 | 1154 | 1155 | 1156 |
| | 1157 | 1158 | | | |
| BRANDT | 1059 | 1056 | 1024 | 1019 | 1017 |
| ELECTRONIQUE | | | | | |
| BRION VEGA | 1203 | 1088 | 1023 | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| BROCKSONIC | 0206 | 0205 | 0072 | | |
| BRUNS | 1088 | 1023 | | | |
| BUSH | 1092 | 1043 | 1040 | 1020 | 1010 |
| BUSH(UK) | 1044 | | | | |
| CANDLE | 0128 | 0123 | | | |
| CAPEHART | 0059 | | | | |
| CELLO | 1178 | 1182 | | | |
| CENTURION | 0171 | 0123 | | | |
| CENTURY | 1088 | 1023 | | | |
| CETRONIC | 0045 | | | | |
| CGE | 1105 | | | | |
| CIHAN | 1032 | | | | |
| CITIZEN | 0132 | 0128 | 0123 | 0045 | |
| CLASSIC | 0045 | | | | |
| COBY | 0104 | | | | |
| COMTEL | 1032 | | | | |
| CONCERTO | 0128 | | | | |
| CONTEC | 0045 | 1010 | | | |
| CONTINENTAL | 1059 | 1056 | 1024 | 1019 | 1017 |
| EDISON | | | | | |
| CORANDO | 0172 | | | | |
| CORONADO | 0132 | | | | |
| CRAIG | 0159 | 0158 | 0157 | 0045 | |
| CROSLEY | 1088 | 1023 | | | |
| CROWN | 0132 | 0045 | | | |
| CURTIS MATHES | 0128 | 0123 | 0132 | 0080 | 0082 |
| CXC | 0045 | | | | |
| DAEWO | 0132 | 0128 | 0127 | 0119 | 0116 |
| | 0114 | 0111 | 0108 | 0106 | 0105 |
| | 0102 | 0087 | 0045 | 1022 | |
| DANSAI | 1022 | | | | |
| DAYTRON | 0132 | 0128 | | | |
| DECCA | 1091 | 1032 | | | |
| DECCA(UK) | 1038 | | | | |
| DEGRAAF | 1015 | | | | |
| DELL | 0075 | | | | |
| DGM | 1190 | | | | |
| DIBOSS | 0186 | | | | |
| DIGI LINK | 0200 | | | | |

**TV/DVR**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| DIGIFUSION | 1184 | | | | |
| DIGITREX | 1192 | | | | |
| DISH NETWORK | 0188 | 2012 | | | |
| DIXI | 1022 | | | | |
| DORIC | 1029 | | | | |
| DUMONT | 1201 | 1199 | 1096 | 1088 | 1023 |
| DUMONT-FINLUX | 1044 | 1012 | | | |
| DYNASTY | 0045 | | | | |
| DYNATECH | 0063 | | | | |
| DYNATRON | 1022 | 1020 | | | |
| DYNEX | 0014 | 0083 | 0107 | 0189 | |
| ELBE | 1211 | 1105 | 1095 | | |
| ELCIT | 1032 | 1023 | | | |
| ELECTROGRAPH | 0064 | | | | |
| ELECTROHOME | 0132 | 0115 | | | |
| ELEMENT | 0048 | 0113 | | | |
| EMERSON | 0205 | 0162 | 0159 | 0158 | 0157 |
| | 0139 | 0132 | 0128 | 0123 | 0045 |
| | 0126 | 1195 | 1088 | 1023 | |
| EMOTION | 1189 | | | | |
| EPSON | 0074 | | | | |
| ERRES | 1033 | 1022 | | | |
| FENNER | 1022 | | | | |
| FERGUSON | 1197 | 1196 | 1099 | 1077 | 1076 |
| | 1075 | 1062 | 1047 | 1024 | 1001 |
| FIDELITY | 1047 | | | | |
| FIDELITY(UK) | 1099 | | | | |
| FINHER | 1204 | | | | |
| FINLANDIA | 1018 | | | | |
| FINLUX | 1201 | 1199 | 1096 | 1088 | 1044 |
| | 1012 | | | | |
| FIRST LINE | 1157 | 1159 | 1160 | 1161 | 1163 |
| | 1164 | 1166 | 1168 | 1169 | |
| FISHER | 1088 | 1043 | 1023 | | |
| FORGESTONE | 1099 | 1047 | | | |
| FORMENTI | 1088 | | | | |
| FORMENTIPHOENIX | 1088 | | | | |
| FUJITSU | 1195 | 0041 | 0042 | 0249 | 0250 |
| FUNAI | 0045 | | | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| FUTURETECH | 0045 | 0195 | 1195 | | |
| GATEWAY | 0198 | 0199 | | | |
| GBC | 1043 | | | | |
| GE | 0163 | 0159 | 0145 | 0133 | 0128 |
| | 0123 | 0121 | 0087 | 0029 | |
| GEC(UK) | 1061 | | | | |
| GOODMANS | 1043 | 1022 | 1010 | 1036 | 1041 |
| GORENJE | 1124 | 1034 | | | |
| GRANADA | 1104 | 1033 | 1029 | 1022 | 1018 |
| | 1010 | | | | |
| GRANADA(UK) | 1043 | | | | |
| GRUNDIG | 0193 | 0203 | 1200 | 1096 | 1077 |
| | 1076 | 1075 | 1011 | | |
| GVA | 0131 | | | | |
| HAIER | 0135 | 0213 | 1028 | | |
| HALL MARK | 0128 | | | | |
| HANNSPREE | 1185 | | | | |
| HANSEATIC | 1043 | 1022 | 1020 | 1010 | |
| HARMAN KARDON | 0201 | | | | |
| HIFIVOX | 1080 | 1059 | 1056 | 1024 | 1019 |
| | 1017 | | | | |
| HINARI | 1195 | 1043 | 1020 | 1010 | |
| HISENSE | 0137 | 0140 | 0216 | | |
| HITACHI | 0147 | 0144 | 0132 | 0128 | 0123 |
| | 1206 | 1101 | 1094 | 1093 | 1085 |
| | 1082 | 1080 | 1069 | 1066 | 1061 |
| | 1059 | 1058 | 1056 | 1055 | 1043 |
| | 1035 | 1026 | 1024 | 1018 | 1015 |
| | 1012 | 1010 | | | |
| HP | 0076 | 0218 | | | |
| HUMAX 0217 | 1030 | | | | |
| HYPER | 1206 | | | | |
| HYPERION | 0073 | | | | |
| HYTEK | 0016 | | | | |
| HYUNDAI | 0220 | 0236 | | | |
| IKASU | 1212 | | | | |
| ILO | 0009 | 0056 | | | |
| INFINITY | 0148 | | | | |

**TV/DVR**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| INKEL | 0120 | | | | |
| INNO HIT | 1068 | | | | |
| INSIGNIA | 0099 | 0107 | | | |
| INTERFUNK | 1104 | 1088 | 1056 | 1033 | 1024 |
| | 1023 | 1022 | 1020 | | |
| INTERVISION | 1121 | 1119 | 1118 | 1117 | 1116 |
| | 1115 | 1114 | 1113 | 1111 | |
| ISIS | 1186 | | | | |
| ITT | 1100 | 1092 | 1046 | 1040 | |
| ITT-NOKIA | 1100 | 1092 | 1058 | 1040 | |
| JBL | 0148 | | | | |
| JCPENNY | 0145 | 0132 | 0128 | 0123 | 0115 |
| JENSEN | 0019 | | | | |
| JET POINT | 1208 | | | | |
| JOHN LEWIS | 1193 | | | | |
| JVC | 0134 | 0087 | 0079 | 1092 | 1056 |
| | 1053 | 1047 | 1043 | 1010 | |
| KARCHER | 1068 | 1012 | | | |
| KATHREIN | 1124 | 1034 | | | |
| KAWASHO | 0173 | | | | |
| KEC | 0045 | | | | |
| KENMARK | 1183 | | | | |
| KENNEDY | 1025 | | | | |
| KENWOOD | 0204 | 0123 | | | |
| KLEGG | 0066 | | | | |
| KLH | 0006 | | | | |
| KMC | 0132 | | | | |
| KNEISSEL | 1105 | | | | |
| KNOLLSYSTEMS | 0224 | | | | |
| KOGAN | 1180 | | | | |
| KONKA | 0225 | | | | |
| KRIESLER | 1060 | 1048 | 1047 | 1033 | 1025 |
| | 1023 | 1022 | | | |
| KTV | 0162 | 0132 | 0123 | 0045 | |
| LEVEL | 1191 | | | | |
| LG(GOLDSTAR) | 0132 | 0128 | 0122 | 0110 | 1073 |
| | 0002 | 0013 | 0086 | 1022 | |
| | 2004 | | | | |
| LINSAR | 1187 | | | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| LLOYTRON | 0173 | 0172 | | | |
| LODGENET | 0069 | | | | |
| LOEWE | 0227 | 1027 | | | |
| LOEWE OPTA | 1088 | 1023 | 1022 | 1020 | |
| LOGIK | 0069 | 1099 | 1091 | 1047 | 1038 |
| LUMA | 1022 | | | | |
| LUXMAN | 0128 | | | | |
| LUXOR | 1058 | | | | |
| LXI | 0148 | 0145 | 0077 | | |
| M ELECTRONIC | 1201 | | | | |
| MAGNADYNE | 1088 | 1023 | | | |
| MAGNASONIC | 0015 | | | | |
| MAGNAVOX | 0148 | 0145 | 0132 | 0128 | 0123 |
| | 0030 | 0040 | 0088 | 0138 | 2007 |
| | 2008 | 2009 | 2010 | 2011 | |
| MANESTH | 1022 | | | | |
| MARANTZ | 0148 | 0123 | 0115 | 1022 | |
| MARELLI | 1088 | | | | |
| MARK | 1022 | | | | |
| MARKS & SPENCER | 1182 | | | | |
| MATSUI | 0148 | 1091 | 1043 | 1040 | 1038 |
| | 1020 | 1001 | | | |
| MAXENT | 0199 | | | | |
| MEDION | 1031 | | | | |
| MEMOREX | 0128 | 0069 | | | |
| METZ | 0084 | 1088 | 1077 | 1076 | 1075 |
| | 1023 | 1011 | | | |
| MGA | 0128 | 0123 | 0115 | | |
| MINERVA | 0084 | 1200 | 1096 | 1077 | 1076 |
| | 1075 | 1011 | | | |
| MINTEK | 0065 | | | | |
| MISAKI | 0195 | | | | |

**TV/DVR**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| MITSUBISHI | 0168 | 0167 | 0160 | 0128 | 0123 |
| | 0115 | 0077 | 1124 | 1092 | 1091 |
| | 1090 | 1089 | 1083 | 1082 | 1079 |
| | 1077 | 1076 | 1075 | 1057 | 1050 |
| | 1046 | 1043 | 1039 | 1038 | 1034 |
| | 1029 | 1023 | 1022 | 1020 | 1013 |
| | 1011 | 1010 | 1007 | | |
| MOTOROLA | 2005 | | | | |
| MTC | 0176 | 0175 | | | |
| MURPHY | 1021 | | | | |
| NATIONAL | 0182 | 0181 | 0180 | 0179 | 0177 |
| | 0148 | 1018 | | | |
| NEC | 0125 | 0123 | 0121 | 0115 | 0010 |
| | 1043 | 1010 | | | |
| NECKERMANN | 1102 | 1088 | 1078 | 1023 | |
| NEON | 1182 | | | | |
| NIKEI | 0045 | | | | |
| NOBLEX | 1204 | 1205 | | | |
| NOKIA | 1100 | 1092 | 1046 | 1040 | |
| NORDMENDE | 1094 | 1093 | 1080 | 1069 | 1059 |
| | 1056 | 1053 | 1024 | 1019 | 1017 |
| | 1009 | | | | |
| OKI | 1045 | 1049 | 1081 | 1087 | 1097 |
| OLEVIA | 0007 | | | | |
| ONKING | 0045 | | | | |
| ONWA | 0045 | | | | |
| OPTOMA | 0229 | | | | |
| OPTONICA | 0077 | | | | |
| ORION | 0211 | 0210 | 0209 | 0208 | 0207 |
| | 0230 | 1210 | 1209 | 1091 | 1040 |
| | 1038 | | | | |
| OTTO VERSAND | 1207 | 1102 | 1092 | 1078 | 1077 |
| | 1076 | 1075 | 1043 | 1022 | 1020 |
| | 1010 | | | | |
| PANASONIC | 0169 | 0148 | 0087 | 0061 | 1137 |
| | 1136 | 1135 | 1134 | 1133 | 1132 |
| | 1131 | 1130 | 1129 | 1128 | 1002 |
| | 1004 | | | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| PATHE' MARCONI | 1059 | 1056 | 1024 | 1019 | 1017 |
| PHILCO | 0148 | 0132 | 0128 | 0123 | 0115 |
| | 0045 | 1105 | 1088 | 1023 | |
| PHILIPS | 0148 | 0145 | 0132 | 0128 | 0123 |
| | 0036 | 0035 | 0034 | 0033 | 0089 |
| | 1108 | 1107 | 1104 | 1100 | 1099 |
| | 1095 | 1088 | 1086 | 1084 | 1078 |
| | 1071 | 1070 | 1068 | 1067 | 1061 |
| | 1060 | 1054 | 1048 | 1047 | 1046 |
| | 1033 | 1032 | 1027 | 1025 | 1023 |
| | 1022 | 1020 | 1014 | 1008 | 1176 |
| | 1177 | 1179 | 1181 | 1213 | |
| PIONEER | 0128 | 0123 | 0024 | 1069 | 1056 |
| | 1024 | 1022 | 1020 | | |
| POLAROID | 0003 | 0004 | 0005 | 0006 | 0043 |
| PORTLAND | 0132 | 0128 | 0231 | | |
| PROLINE | 1209 | 1020 | | | |
| PROSCAN | 0133 | | | | |
| PROTECH | 1022 | | | | |
| PROTON | 0165 | 0132 | 0128 | 0122 | 0059 |
| | 0008 | | | | |
| QUASAR | 0087 | 0032 | | | |
| QUELLE | 1200 | 1096 | 1077 | 1076 | 1075 |
| | 1044 | 1038 | 1022 | 1020 | 1012 |
| | 1011 | | | | |
| RADIO SHACK | 0197 | 0196 | 0180 | 0132 | 0128 |
| | 0045 | | | | |
| RADIOLA | 1078 | 1060 | 1048 | 1047 | 1033 |
| | 1025 | 1023 | 1022 | | |
| RADIOMARELLI | 1088 | 1083 | 1082 | 1029 | 1023 |
| | 1022 | | | | |
| RBM(UK) | 1044 | | | | |
| RCA | 0163 | 0161 | 0145 | 0133 | 0128 |
| | 0123 | 0115 | 0089 | 0188 | 2001 |
| | 2012 | | | | |
| REALISTIC | 0196 | | 0167 | 0045 | 1029 |
| REDIFFUSION | 1083 | 1082 | | | |
| REX | 1198 | 1025 | 1022 | | |

**TV/DVR**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| RFT | 1127 | 1126 | 1125 | 1124 | 1123 |
| | 1122 | | | | |
| RTF | 1023 | | | | |
| RUNCO | 0153 | 0152 | 0044 | 0046 | |
| SAA | 0183 | | | | |
| SABA | 1094 | 1093 | 1088 | 1080 | 1069 |
| | 1059 | 1056 | 1024 | 1023 | 1019 |
| | 1017 | 1009 | | | |
| SALORA | 1058 | 1018 | | | |
| SAMPO | 0128 | 0123 | 0059 | | |
| SAMSUNG | 0226 | 0145 | 0132 | 0128 | 0124 |
| | 0022 | 0020 | 1226 | 1208 | 1205 |
| | 1204 | 1068 | 1022 | 2003 | |
| SANYO | 0054 | 0026 | 0091 | 1092 | 1091 |
| | 1043 | 1038 | 1023 | 1012 | 1010 |
| SBR | 1086 | 1084 | 1061 | 1047 | 1046 |
| | 1033 | 1022 | | | |
| SCEPTRE | 0232 | | | | |
| SCHNEIDER | 1196 | 1086 | 1078 | 1060 | 1048 |
| | 1047 | 1033 | 1025 | 1023 | 1022 |
| SCOTT | 0132 | 0128 | 0045 | 1195 | |
| SEARS | 0145 | 0132 | 0128 | | |
| SELECO | 0078 | 1199 | 1198 | 1105 | 1025 |
| | 1022 | | | | |
| SHARP | 0132 | 0128 | 0077 | 0062 | 0092 |
| | 1207 | 1043 | 1010 | | |
| SHERWOOD | 0067 | | | | |
| SIEMENS | 0084 | 1077 | 1076 | 1075 | 1015 |
| | 1011 | 1010 | | | |
| SIGNATURE | 0069 | | | | |
| SINGER | 1105 | 1088 | 1023 | | |
| SINUDYNE | 1209 | 1210 | | | |
| SOLE | 0068 | 0233 | | | |
| SONY | 0212 | 0194 | 0136 | 0130 | 0117 |
| | 0031 | 0028 | 0060 | 0093 | 1106 |
| | 1103 | 1102 | 1091 | 1065 | 1064 |
| | 1062 | 1043 | 1038 | 1016 | 1010 |
| | 1006 | 1172 | 1173 | 1174 | |
| SOUND WAVE | 1020 | | | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| SOUNDESIGN | 0128 | 0045 | | | |
| SPECTRICON | 0122 | | | | |
| SSS | 0045 | | | | |
| STERN | 1198 | 1025 | 1022 | | |
| SUNKAI | 1210 | | | | |
| SUPERSCAN | 0195 | | | | |
| SUPRATECH | 1139 | 1140 | 1141 | 1142 | 1143 |
| SYLVANIA | 0148 | 0145 | 0128 | 0123 | 0025 |
| | 0057 | 0094 | 0098 | 0142 | |
| SYMPHONIC | 0184 | 0195 | | | |
| TANDBERG | 1080 | 1056 | 1023 | | |
| TANDY | 0077 | | | | |
| TATUNG | 0063 | 2018 | | | |
| TCL | 0234 | | | | |
| TEAC | 0095 | 0244 | | | |
| TECHNICS | 0181 | | | | |
| TECHWOOD | 0128 | | | | |
| TEKNIKA | 0132 | 0128 | 0123 | 0115 | 0069 |
| | 0045 | 1195 | | | |
| TELEFUNKEN | 1069 | 1059 | 1056 | 1024 | |
| TELERENT | 0069 | | | | |
| TENSAI | 1022 | | | | |
| TERA | 0156 | | | | |
| THOMSON | 0191 | 0190 | 1094 | 1093 | 1082 |
| | 1080 | 1074 | 1072 | 1069 | 1059 |
| | 1056 | 1053 | 1044 | 1040 | 1024 |
| | 1019 | 1017 | 1009 | 1005 | 1003 |
| THORN | 1099 | 1047 | | | |
| THORN-FERGUSON | 1196 | 1197 | 1201 | 1103 | 1102 |
| | 1099 | 1047 | 1024 | | |
| TIVO | 0051 | 0052 | 1051 | 1052 | 2207 |
| | 2204 | | | | |
| TMK | 0128 | | | | |
| TOSHIBA | 0202 | 0129 | 0063 | 0058 | 0096 |
| | 0103 | 1105 | 1096 | 1092 | 1063 |
| | 1044 | 1043 | 1042 | 1037 | 1010 |
| | 1001 | 1162 | | | |
| TOTEVISION | 0132 | | | | |
| TRISTAR | 1099 | | | | |

**TV/DVR**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| TRIUMPH | 1199 | 1044 | | | |
| TRUTECH | 0055 | | | | |
| UHER | 1044 | | | | |
| ULTRAVOX | 1088 | 1023 | | | |
| UNIVERSUM | 1201<br>1012 | 1102 | 1077 | 1076 | 1075 |
| VIDEO CONCEPTS | 0160 | | | | |
| VIDEOCON | 1188 | | | | |
| VIDIKRON | 0235 | 0253 | | | |
| VIDTECH | 0128 | | | | |
| VIEWSONIC | 0011 | 0038 | 0047 | 0254 | 0255 |
| VIORE | 0245 | 0237 | | | |
| VISTRON | 1194 | | | | |
| VISUAL INNOVATIONS | 1183 | | | | |
| VITO | 0070 | | | | |
| VIZIO | 0001 | 0002 | 0049 | 0050 | 0246 |
| VOXSON | 1088 | 1023 | | | |
| WARDS | 0148 | 0132 | 0128 | 0069 | |
| WATSON | 1077 | 1076 | 1075 | | |
| WEGA | 1088 | 1043 | 1010 | | |
| WEGA COLOR | 1023 | | | | |
| WELTBLICK | 1022 | | | | |
| WESTINGHOUSE | 0017<br>1022 | 0018 | 0023 | 0060 | 0100 |
| WINBOOK | 0071 | | | | |
| WINTERNITZ | 1206 | | | | |
| YAMAHA | 0128 | 0123 | 0238 | 0239 | |
| YORK | 0128 | | | | |
| YUPITERU | 0045 | | | | |
| ZANUSSI | 1198 | 1025 | 1022 | | |
| ZENITH | 0090<br>2019 | 0069 | 0240 | 2002 | 2006 |
| ZONDA | 0122 | | | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| ABC | 3011 | 3001 | | | |
| ALLEGRO | 3111 | | | | |
| AMERICAST | 3212 | | | | |
| AMINO | 3015 | 4031 | | | |
| ARCHER | 3112 | | | | |
| BELCOR | 3113 | | | | |
| BT CABLE | 4007 | | | | |
| CABLE STAR | 3113 | 3033 | | | |
| CABLETIME | 4016 | 4012 | 4011 | 4008 | |
| CISCO | 3016 | 3021 | 4032 | 4033 | |
| CITIZEN | 3111 | | | | |
| CLYDE CABLE VISION | 4017 | | | | |
| COLOUR VOICE | 3090 | 3085 | | | |
| COMCAST | 3007<br>4040 | 3040 | 3054 | 4014 | 4015 |
| DECAST CANAL | 4010 | | | | |
| DIGI LINK | 3114 | | | | |
| EAGLE | 3186 | | | | |
| EASTERN | 3070 | 3066 | | | |
| ELECTRICORD | 3039 | | | | |
| EMERSON | 3112 | | | | |
| FILMNET | 4020 | 4018 | | | |
| FOXTEL | 4019 | | | | |
| FRANCE TELECOM | 4021 | 4013 | | | |
| GEC | 4017 | | | | |
| GENERAL INSTRUMENT | 3054 | 4040 | | | |
| FOCUS | 3116 | | | | |
| FOXTEL | 3043 | | | | |
| G.I | 3097 | 3096 | 3017 | 3011 | 3001 |
| GC ELETRONICS | 3113 | | | | |
| GEMINI | 3060 | 3032 | | | |
| GENERAL | 3210 | | | | |

**CABLE BOX**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| GENERAL INSTRUMENT | 3210 | 3054 | | | |
| GOODMIND | 3112 | | | | |
| HANLIN | 3208 | 3175 | 3117 | 3101 | 3100 |
| | 3099 | 3056 | | | |
| HITACHI | 3188 | 3001 | | | |
| JASCO | 3111 | | | | |
| JERROLD | 3210 | 3188 | 3162 | 3097 | 3096 |
| | 3073 | 3017 | 3011 | 3002 | 3001 |
| | 4022 | 4001 | | | |
| LINSAY | 3118 | | | | |
| MACOM | 3191 | | | | |
| MAGNAVOX | 3068 | 3019 | 3017 | | |
| MOTOROLA | 3022 | 3023 | 3021 | 3031 | 4034 |
| | 4035 | 4036 | 4038 | | |
| MOVIE TIME | 3039 | 3035 | | | |
| NSC | 3190 | 3035 | | | |
| OAK | 3220 | 3197 | | | |
| PACE | 3179 | | | | |
| PANASONIC | 3214 | 3189 | 3177 | 3176 | 3053 |
| PANTHER | 3114 | | | | |
| PHILIPS | 3090 | 3085 | 3020 | 3019 | 3013 |
| | 4023 | | | | |
| PIONEER | 3216 | 3215 | 3209 | 3171 | 3119 |
| | 3041 | 3001 | 4002 | | |
| POPULAR MECHANIC | 3116 | | | | |
| PRELUDE | 3120 | | | | |
| PRIMESTAR | 3162 | | | | |
| QUEST | 3037 | 4041 | | | |
| RADIOSHACK | 3213 | 3112 | 3111 | | |
| RCA | 3214 | 3053 | | | |
| RECOTON | 3116 | | | | |
| REGAL | 3208 | 3101 | 3100 | 3099 | 3056 |
| REMBRANT | 3032 | | | | |
| SAGEM | 4028 | | | | |
| SAMSUNG | 3003 | 3186 | 3072 | 4024 | 4003 |
| | 4002 | | | | |
| SATBOX | 4004 | | | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| SCIENTIFIC ATLANTA | 3222 | 3221 | 3203 | 3183 | 3038 |
| | 4026 | 4025 | 4006 | 4005 | 4039 |
| SEAM | 3121 | | | | |
| SIGNATURE | 3188 | 3001 | | | |
| SPRUCER | 3189 | 3177 | 3081 | 3053 | |
| STARCOM | 3163 | 3011 | 3002 | | |
| STARGATE | 3120 | | | | |
| TANDY | 3024 | | | | |
| TELECAPATION | 3028 | | | | |
| TELESERVICE | 4011 | | | | |
| TEXSCAN | 3036 | | | | |
| TFC | 3122 | | | | |
| TIMELESS | 3123 | | | | |
| TIVO | 3029 | 3030 | 4029 | 4030 | |
| TOCOM | 3205 | 3170 | | | |
| TUDI | 4027 | | | | |
| UNITED CABLE | 3011 | 4001 | | | |
| UNIVERSAL | 3113 | 3042 | 3039 | 3034 | 3033 |
| VIDEOWAY | 3211 | 3124 | | | |
| VIEWSTAR | 3190 | 3089 | 3086 | 3053 | 3025 |
| | 3019 | | | | |
| VISIOPASS | 4009 | | | | |
| WESTMINSTER CABLE | 4007 | | | | |
| ZENITH | 3219 | 3211 | 3125 | 3065 | |
| ZENTEK | 3116 | | | | |

**SATELLITE TUNERS**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| AIWA | 6141 | | | | |
| AKAI | 6033 | | | | |
| ALBA | 6111 | 6001 | | | |
| ALPHASTAR | 5172 | | | | |
| ALPHASTAR DBS | 5150 | | | | |
| ALPHASTAR DSR | 5142 | | | | |
| AMSTRAD | 6132 | | | | |
| ANKARO | 6121 | | | | |
| ASTRO | 6183<br>6178 | 6182<br>6177 | 6181<br>6176 | 6180 | 6179 |
| BARCOM | 6121 | | | | |
| BIRDVIEW | 5125 | | | | |
| BLAUPUNKT | 6090 | 6038 | | | |
| BUSH | 6106 | 6048 | | | |
| BUSH(UK) | 6053 | | | | |
| CANAL | 5078 | 6013 | | | |
| CANAL DIGITAL | 6013 | | | | |
| CANAL PLUS (CANAL+) | 6013 | | | | |
| CHANNEL MASTER | 5061 | 5025 | 5021 | 5020 | |
| CHAPARRAL | 5151 | 5016 | 5015 | | |
| CITOH | 5060 | | | | |
| DIRECTV | 5009<br>6005 | 5010 | 5014 | 6002 | 6003 |
| DISH NETWORK | 5064 | | | | |
| DRAKE | 5181 | 5113 | 5018 | 5017 | 5013 |
| DX ANTENNA | 5183 | 5079 | 5052 | 5031 | |
| ECHOSTAR | 5185<br>5153<br>5008<br>6025 | 5184<br>5152<br>5038<br>6028 | 5178<br>5097<br>5040 | 5177<br>5095<br>6047 | 5163<br>5064<br>6021 |
| ELECTRO HOME | 5092 | | | | |
| FERGUSON | 6124<br>6063 | 6111<br>6053 | 6106<br>6052 | 6067<br>6048 | 6064<br>6045 |
| FINLUX | 6010 | 6009 | | | |
| FOXTEL | 5076 | 6016 | | | |
| FTE | | 6080 | | | |
| FUBA | 6121 | 6047 | 6014 | | |
| FUJITSU | 5034 | 5029 | 5024 | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| GOLDEN INTERSTAR | 6020 | | | | |
| GOODMANS | 6111 | | | | |
| GRUNDIG | 5074<br>6015 | 6090 | 6067 | 6053 | 6038 |
| HITACHI | 5155 | 5004 | 6111 | 6106 | |
| HOUSTON TRACKER | 5163 | | | | |
| HUGHES | 5189 | 5137 | 5005 | 5006 | |
| HUMAX | 5072 | 6007 | | | |
| ITT | 6067 | | | | |
| ITT-NOKIA | 6067 | | | | |
| JANIEL | 5066 | | | | |
| JERROLD | 5184 | 5168 | 5154 | | |
| KATHREIN | 5110 | 6090 | 6080 | 6033 | 6001 |
| KCPI | 5080 | 6037 | | | |
| KOSMOS | 6080 | | | | |
| KYOTO GMI ATLAN | 6143 | | | | |
| LEGEND | 5153 | | | | |
| LEMON | 6174 | | | | |
| LOEWE | 6175 | | | | |
| LORENZEN | 6174 | 6165 | 6164 | 6163 | 6161 |
| MACOM | 5071 | 5070 | 5069 | 5065 | 5017 |
| MAGNAVOX | 5173 | 5161 | | | |
| MARANTZ | 6033 | | | | |
| MASPRO | 6106 | 6053 | | | |
| MEMOREX | 5153 | | | | |
| METZ | 6090 | | | | |
| MINERVA | 6090 | | | | |
| MITSUBISHI | 5007 | 6090 | | | |
| MOTOROLA | 5012 | 5019 | | | |
| MULTISTAR | 6080 | | | | |
| NEC | 6073 | 6046 | 6036 | 6030 | |
| NETA P562 | 6140 | | | | |
| NEXTWAVE | 5123 | | | | |
| NOKIA | 6067 | | | | |
| NORSAT | 5073 | 6046 | | | |
| OPTIMUS | 5166 | | | | |
| OTTO VERSAND | 6090 | | | | |

**SATELLITE TUNERS**

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| PACE | 5187 | 5028 | 5043 | 5082 | 6124 |
| | 6067 | 6064 | 6063 | 6053 | 6048 |
| | 6017 | 6039 | | | |
| PACE MSS SERIES | 6067 | | | | |
| PANASONIC | 5169 | 5066 | 5157 | 5053 | 6124 |
| | 6031 | | | | |
| PANSAT | 5120 | | | | |
| PERSONAL CABLE | 5118 | | | | |
| PHILIPS | 5075 | 6124 | 6121 | 6053 | 6033 |
| | 6032 | 6019 | | | |
| PICO | 5107 | | | | |
| PREMIERE | 5057 | 6008 | | | |
| PRESIDENT | 5104 | 5081 | | | |
| PRIMESTAR | 5175 | 5168 | 5154 | 5112 | 5002 |
| QUADRAL | 6173 | 6172 | 6171 | 6170 | 6169 |
| | 6168 | 6167 | 6166 | | |
| QUELLE | 6090 | | | | |
| RADIOLA | 6053 | | | | |
| RADIX | 6047 | | | | |
| RCA | 6047 | | | | |
| REALISTIC | 5190 | 5165 | 5139 | 5001 | 5158 |
| | 5058 | 5067 | 6035 | | |
| SAMSUNG | 5142 | 5022 | 5026 | 5045 | 6132 |
| | 6127 | 6080 | 6034 | | |
| SAT | 6127 | | | | |
| SATELLITE SERVICE | 5088 | 5035 | | | |
| SCIENTIFIC ATLANTA | 5039 | 5056 | | | |

| Manufacturer | Code Numbers | | | | |
|---|---|---|---|---|---|
| SCHNEIDER | 6053 | | | | |
| SIEMENS | 6090 | 6038 | | | |
| SKY | 5043 | 5044 | 6006 | 6017 | 6018 |
| SKY MASTER | 6133 | | | | |
| SKYLAB | 6121 | | | | |
| SONY | 5105 | 5062 | 5041 | 6029 | |
| STAR CHOICE DBS | 5159 | | | | |
| STARCAST | 5047 | | | | |
| SUPER GUIDE | 5123 | 5027 | | | |
| TECHNISAT | 6047 | | | | |
| TEECOM | 5109 | 5093 | 5091 | 5090 | 5033 |
| | 5030 | | | | |
| TELECOM | 6041 | | | | |
| TELEFUNKEN | 6083 | | | | |
| THORN-FERGUSON | 6067 | 6064 | 6048 | 6063 | 6053 |
| | 6052 | 6045 | 6023 | | |
| TOPFIELD | 5063 | 6011 | | | |
| TOSHIBA | 5023 | 5162 | 5161 | 5160 | 5126 |
| | | 5180 | 5179 | 5166 | 5103 |
| | | 5083 | 5081 | 5055 | 5054 |
| | | 5050 | 5049 | 5048 | 5032 |
| VIASAT | 5077 | 6012 | | | |
| VORTEC | 6142 | 6132 | | | |
| WISI | 6127 | 6047 | 6026 | 6027 | 6022 |
| | 6004 | | | | |
| ZEHNDER | 6127 | 6080 | | | |
| ZENITH | 5188 | 5119 | 5094 | 5087 | 5085 |
| | 5084 | 5059 | 6044 | | |

HARMAN

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